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ABSTRACT

In the spring of 1975, a manpower survey was conducted to determine the educational, occupational, and career plans of college students in Indiana who were about to complete the requirements for an associate degree. Fifty percent (1,467) of the expected associate degree recipients from public institutions, and all 623 of the expected recipients from independent institutions received the survey instrument. Overall, there was a 47 percent response rate (919). In addition to information elicited on student characteristics and backgrounds, the findings were these: The most commonly chosen major area of study was health service and paramedical technology. Only 31 percent of the respondents expected that the associate degree was the highest degree they would complete. Approximately two-thirds of the respondents indicated general fields of study they hoped to pursue in the future, the most popular being health related programs. Sixty-one percent expected to be employed in career jobs in the fall following their graduations, and 79 percent expected that their long-term careers would be related to their major fields of study. Data are organized into 36 tables, and the survey instrument is appended. (Author/NHM)

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INDIANA COLLEGE-LEVEL MANPOWER STUDY

Report Number Four

EDUCATIONAL PLANS AND CAREER CHOICES OF ASSOCIATE DEGREE RECIPIENTS IN INDIANA

by

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December, 1975

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2. Educational Plans and Career Choices of High School College Preparatory Seniors in Indiana, October, 1975

3. Educational Plans and Career Choices of Bachelor's Degree Recipients in Indiana, November 1975

4. Educational Plans and Career Choices of Associate Degree Recipients in Indiana, December, 1975

Publications immediately forthcoming:

1. Educational Preferences for Employees Held by Major Indiana Businesses and Industries, January, 1976 (projected)

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PREFACE

The Indiana College-Level Manpower Study is being conducted by the Indiana Commission for Higher Education to provide manpower information of value to educational planning at the postsecondary level. Factors involving both manpower supply and demand are being investigated, and educational and occupational areas in which major supply/demand imbalances exist will be determined.

This publication is the report of a questionnaire survey conducted in spring, 1975, to determine the educational, occupational and career plans of college students in Indiana who were within a short time of completing work toward an associate degree. The data should provide valuable information for the determination of Indiana's college-level manpower supply.

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PART I
HIGHLIGHTS

Demographic Characteristics

This report is based upon a questionnaire survey of a sample of those students completing work toward associate degrees in Indiana within approximately one month of their spring, 1975 graduation.

Twenty-four percent of the respondents' fathers were in the craftsmen-foremen-kindred occupational category (definitions of occupational/career categories are in List "B" in Appendix B). An additional eighteen percent were in the professional-technical-kindred category and seventeen percent were in the operatives category. Nearly half of their mothers were identified as being housewives. Sixteen percent were listed as being clerical workers and twelve percent were in the professional-technical-kindred category.

Twenty-nine percent of the fathers and 25 percent of the mothers had not graduated from high school, and 48 percent of the fathers and 58 percent of the mothers had received a high school diploma as their highest educational degree. Sixteen percent of the fathers and fourteen percent of the mothers had completed associate or bachelor's degree work, and eight percent of the fathers and two percent of the mothers had received graduate degrees.

Educational Backgrounds and Future Plans for Education

Forty percent of the respondents had interrupted their formal education for an extended period of time since completing high school, with significantly more males than females having experienced such an interruption.

Associate degree fields were divided into four categories; business and commerce technologies, health service and paramedical technologies, mechanical and engineering technologies, and miscellaneous associate degree programs including data processing, natural science, public service, and other associate degree programs. Twenty percent of the respondents indicated that their first declared majors had been bachelors level programs, so all four associate degree areas had experienced increases when respondents' first declared majors were compared with their current majors (at time of graduation).

The most commonly chosen major area of study was the health service and paramedical technologies. Sizable proportions of the respondents had majored in the other areas of mechanical and engineering technologies, business and commerce technologies, and the miscellaneous associate degree programs.

Only 31 percent of the respondents expected that the associate degree was the highest level educational degree they would complete. Forty-eight percent expected their highest degree would be the bachelor's, seventeen percent the master's, and four percent expected to complete first professional, specialist's or doctorate degrees.

Approximately two-thirds of the respondents indicated a general field of study they hoped to pursue in the future. The most popular field for further study was the health-related programs.

The relationships between the major field of study and respondents' interests and career choices were indicated by the respondents as the most important factors considered in choosing a major. The relationship between the major and their talents/aptitudes was also very important to a majority. The status or prestige of the major and the influence of parents, relatives, or friends were much less important than these three factors.

Occupation and Career Plans and Aspirations

Sixty-one percent of the associate degree recipients expected to be employed in career jobs in the fall subsequent to their graduation, with an additional eighteen percent expecting to hold non-career jobs. Eleven percent expected further formal study to be their primary activity in the fall, while one percent expected to be in the military and ten percent anticipated being outside the work force. For ten years hence, the number expected to hold career jobs increased to 87 percent.

Nursing was the specific occupation most frequently chosen as a career (27 percent). No other occupation was indicated as a career choice by more than six percent of the respondents.

Seventy-nine percent of the associate degree recipients expected that their long-term career would be highly related to their major field of study, including 91 percent of the graduates of health service and paramedical technologies. An additional nineteen percent of the respondents expected that their careers would be somewhat related to their field of study, and only two percent did not anticipate a relationship in this regard.

Interest in work activities was the most important factor considered in making a career choice. Other factors indicated by a majority of respondents as having been very important were being of service to others, working with people rather than things, the opportunity to use special talents and abilities, and security. The most frequently desired career work environments were business-industry and health care facilities. More than one-quarter of the respondents had changed their career choice since entering college.

Previous work experience was the most important source of information for the respondents as they made their career choices. Many indicated that college teachers, college courses, and parents or relatives had been very important to them in making this decision.

Approximately one-third of the respondents reported that they had received occupational or career counseling while in college. Eighty-five percent of these who had received this counseling thought it had been helpful, with 27 percent indicating it had been very helpful.

Seventy-three percent of the respondents including 81 percent of the females and 63 percent of the males, expected to be living in Indiana when entering their long-term career employment.

PART II

INTRODUCTION

The State of Indiana does not have a public junior or community college system. Those programs normally associated with two-year institutions are offered in varying degrees by all of the public postsecondary institutions. Vincennes University and the Indiana Vocational Technical College (IVTC) offer the associate degree as highest degree level available. Vincennes provides occupationally oriented two-year programs as well as academically oriented transfer programswhile IVTC offers vocational-technical programs designed for employment. The main and regional campuses of the state's universities also offer associate degree programs in a wide variety of subject areas.

Many of the independent colleges and universities in Indiana grant degrees at the associate level. These institutions are found in all parts of the state and offer a wide variety of associate degree programs ranging from the highly technical to the transfer.

Many colleges and universities have adopted the practice of conducting follow-up studies of their associate level graduates. In most cases, degree recipients are sent a questionnaire within a year of their graduation asking them about their employment and salary levels. Such information can be of great value to institutional planning, but provides a measure of manpower demand, not supply. Such studies rarely question the graduate about the type of employment he/she had sought as a first preference.

Most associate degree programs relate more directly to specific occupations than do bachelor's degree programs and it would appear to be a simple task to translate degrees granted at the associate level to manpower supply. By relating the numbers of graduates from associate degree programs to the occupations for which they have been trained, estimates of new manpower supply to these occupations can be derived.

However, the problem is not quite this simple. In the first place, it is important to assess the degree to which graduates at the associate level plan to enter occupations related to their major fields of study. It may be invalid to assume that all the graduates of job-related associate-level programs intend to pursue employment related to their training.

It is also important to assess the long-range career aspirations of these degree recipients. Even if a great majority plan to enter occupations closely related to their education or training immediately after graduation, it is possible that many intend to pursue further formal education and aspire to careers related to baccalaureate or higher degrees. The long-range career plans of these graduates are just as important in assessing manpower supply as their short-term occupational plans.

It is also of value to investigate the reasons that degree recipients at the associate level have chosen their major fields of study and careers. Such information can be useful in program planning and student counseling as well as in assessing determinants of manpower supply.

It is the intent of this report to investigate the manpower supply of associate degree recipients in Indiana on the bases of their educational, short-term occupational, and long-term career aspirations. It is not being argued that the plans of these individuals will not change over time and that all of the graduates will see their aspirations fulfilled. However, it is contended that the plans and aspirations of postsecondary education degree recipients are important factors in assessing college-level manpower supply, and as these plans and aspirations are related to numbers of degrees granted, estimates and projections of manpower supply can be more meaningfully developed.

PART III

DEMOGRAPHIC CHARACTERISTICS OF ASSOCIATE DEGREE RECIPIENTS IN INDIANA

This report is based upon a questionnaire survey of a sample of college students in Indiana's public and independent colleges and universities who were about to complete the requirements for an associate degree in the spring of 1975. The survey was conducted in order to determine the educational, occupational, and career plans and aspirations of these students. A discussion of the study methodology is contained in Appendix A.

TABLE 1: QUESTIONNAIRE RESPONSE RATES (BY INSTITUTION)

Institution	1 Sent Out	2 Usable Returns	3 Non-Deliverable	4 Blank or Invalid Returns	5 Percent Returns
Public Institutions	1,467	643	23	41	47.4%
Ball State University	67	27	0	11	56.7
Indiana State University	20	9	0	0	45.0
Indiana Vocational-Technical College*	223	128	11	13	66.5
Indiana University	295	136	4	2	47.4
Purdue University	436	202	1	0	46.4
Vincennes University	426	141	7	15	37.2
Independent Institutions	623	276	4	9	46.0
Ancilla Domini College	25	8	1	0	33.3
Anderson College*	69	38	0	1	56.5
Bethel College	2	1	0	0	50.0
Butler University	2	1	0	0	50.0
Calumet College	58	20	0	0	34.5
Holy Cross Junior College	14	7	0	0	50.0
Huntington College	16	9	0	0	56.3
Indiana Central University	138	66	0	0	47.8
International Junior College	65	38	0	0	58.5
Marion College	3	2	0	0	66.7
Northwood Institute	25	14	0	0	56.0
Oakland City College	10	5	0	0	50.0
Tri-State University	19	10	0	0	52.6
University of Evansville	173	55	3	8	37.1
Valparaiso University	4	2	0	0	50.0
Total	2,090	919	27	50	47.0

*Institutions at which a second mailing was conducted
Column 1 = Total questionnaire distribution
Column 2 = All responses usable in data analysis
Column 3 = Undelivered questionnaires returned to Commission office
Column 4 = Response sheet returned blank (i.e. nongraduates) or response sheets which were unusable
Column 5 = $\frac{\text{Columns } 2 + 4}{\text{Columns } 1 - 3}$ %

Table 1 represents the Occupation and Career Interest Survey response rates for the associate level graduates included in the study sample. An overall response rate of 47 percent was received, comprised of 47.4 percent of the public sector's sample and 46 percent of the independent sector's.

Fifty percent of those reported as graduating from public institutions were chosen by a random selection process and received the survey instrument. One hundred percent of the independent schools' graduates were sent the questionnaire. Because of this difference, a weighting factor of two has been applied to the responses of all public institutions' graduates in the subsequent tables of this report.

* * * * *

TABLE 2: SEX OF SURVEY RESPONDENTS

Question 1: What is your sex?*

Sex	Public Institutions n	%	Independent Institutions n	%	All Institutions n	%
Male	602	46.8	108	39.1	710	45.5
Female	682	53.0	168	60.9	850	54.4
No response	2	0.2	0	0.0	2	0.1
Total	1,286	100.0	276	100.0	1,562	100.0

*Refers to questionnaire number. (See Appendix B)

The data of Table 2 indicate that approximately 54 percent of the questionnaire respondents were female and 46 percent male. Females outnumbered males at both the independent and public institutions, comprising 61 percent of the independents' respondents and 53 percent of the publics'.

* * * * *

TABLE 3: AGE OF RESPONDENTS

Question 2: How old will you be on July 1 of this year?

Age	Public Male n=602	Public Female n=682	Public Total n=1,284	Independent Male n=108	Independent Female n=168	Independent Total n=276	All Male n=710	All Female n=850	All Total n=1,560
18-19	12.6%	15.2%	14.0%	14.8%	26.8%	22.1%	13.0%	17.5%	15.4%
20-21	37.9	47.8	43.1	48.1	45.2	46.4	39.4	47.3	43.7
22-23	14.0	10.3	12.0	7.4	10.1	9.1	13.0	10.2	11.5
24-29	23.3	10.6	16.5	13.0	6.5	9.1	21.7	9.8	15.2
30 and older	12.3	16.1	14.3	16.7	11.3	13.4	13.0	15.2	14.2

The data of Table 3 indicate that nearly sixty percent of the respondents were 21 years of age or younger. Twenty-seven percent were from 22 to 29 years of age and fourteen percent were 30 or older. Males were significantly older than females, and the respondents from public institutions were significantly older than those from the independent institutions.*

* * * * *

TABLE 4: MARITAL STATUS OF RESPONDENTS

Question 3: What is your current marital status?

Marital Status	Public M 602	Public F 682	Public T 1,284	Independent M 108	Independent F 168	Independent T 276	All M 710	All F 850	All T 1,560
Not married	64.5%	66.9%	65.7%	73.1%	75.6%	74.6%	65.8%	68.6%	67.3%
Married	35.5	33.1	34.3	26.9	24.4	25.4	34.2	31.4	32.7

Table 4 indicates that nearly one third of the graduates were married. A significantly higher proportion of the public sector graduates were married than of the independent sector graduates. The difference between the responses of males and females was not statistically significant.

* * * * *

*Levels of significance of the differences in responses from males and females and from public institutions and independent institutions are measured by chi-square analysis and presented in Appendix C. In the narrative of this report, differences significant at the 0.01 probability level will be referred to as statistically significant.

TABLE 5: HOME LOCATION WHEN COMPLETING HIGH SCHOOL STUDIES

Question 4: Where did you live when you last attended high school?

	Public			Independent			All		
Location	M 602	F 680	T 1,282	M 108	F 168	T 276	M 710	F 848	T 1,558
Within Indiana	86.0%	88.2%	87.2%	79.6%	80.4%	80.1%	85.1%	86.7%	85.9%
Outside Indiana but in U.S.A.	12.6	10.3	11.4	19.4	19.0	19.2	13.7	12.0	12.8
Outside U.S.A.	1.3	1.5	1.4	0.9	0.6	0.7	1.3	1.3	1.3

Eighty-six percent of the graduates had lived in Indiana while completing their high school studies. The proportion of Indiana residents was significantly higher in the public institutions than in the independent. Approximately equal proportions of males and females had lived in Indiana while finishing high school.

* * * * *

TABLE 6: PRIMARY OCCUPATIONS OF RESPONDENTS' PARENTS BY OCCUPATIONAL CATEGORY

Questions 19 & 20: What is (was) your father's (mother's) primary occupation?

	Fathers' Occupations			Mothers' Occupations		
Occupational Category	Public 1,266	Indep. 269	All 1,535	Public 1,258	Indep. 275	All 1,533
Professional, technical, kindred	17.9%	19.3%	18.1%	11.4%	13.8%	11.9%
Managers, officials, proprietors	12.8	13.4	12.9	2.2	1.8	2.2
Sales workers	5.7	7.1	5.9	4.1	5.1	4.3
Clerical workers	0.6	0.7	0.7	16.4	14.2	16.0
Craftsmen, foremen, kindred	24.0	24.5	24.1	0.8	1.1	0.8
Operatives	17.1	14.5	16.6	6.8	5.1	6.5
Service workers	3.9	3.3	3.8	8.7	7.6	8.5
Laborers	5.7	5.2	5.6	1.6	1.5	1.6
Farmers, farm workers	10.6	11.2	10.7	0.2	0.4	0.2
Military service	1.7	0.7	1.6	0.0	0.0	0.0
Housewives	--	--	--	47.7	49.5	48.0

Table 6 presents the primary occupations, by occupational category, of the respondents' parents. The highest percentage (24 percent) of the respondents' fathers were primarily employed as craftsmen, foremen and kindred. Thirty percent of the fathers fell into the professional, technical, and kindred or the managers, officials, and proprietors categories, the two groupings generally related to high socioeconomic status. An additional seventeen percent of the fathers were classfied as operatives and eleven percent as farmers or farm workers, with fewer than ten percent falling into each of the remaining occupational categories.

Nearly half of the graduates indicated that the primary occupation of their mother was that of housewife. An additional sixteen percent of the mothers were in clerical occupations, and twelve percent in professional, technical and kindred occupations.

* * * * *

TABLE 7: FATHERS' EDUCATIONAL ATTAINMENT

Question 17: What is the highest educational level completed by your father?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Education Levels	600	682	1,282	108	166	274	708	848	1,556
Less than high school graduate	31.0%	27.6%	29.2%	24.1%	28.3%	26.6%	29.9%	27.7%	28.7%
High school grad.	46.3	49.3	47.9	50.0	45.2	47.1	46.9	48.5	47.8
Associate degree	8.0	7.0	7.5	11.1	7.2	8.8	8.5	7.1	7.7
Bachelor's degree	5.3	10.0	7.8	6.5	9.6	8.4	5.5	9.9	7.9
First prof. degree	1.7	2.1	1.9	0.9	3.0	2.2	1.6	2.2	1.9
Master's degree	4.3	2.6	3.4	7.4	4.8	5.8	4.8	3.1	3.9
Specialist's degree	1.7	0.6	1.1	0.0	0.6	0.4	1.4	0.6	1.0
Doctor's degree	1.7	0.9	1.2	0.0	1.2	0.7	1.4	0.9	1.2

The data of Table 7 indicate that twenty-nine percent of the graduates' fathers had not completed high school studies and an additional 48 percent had not completed a degree beyond the secondary level. Eight percent of the fathers had attained the associate degree, and an equal percentage had received a bachelor's as their highest educational level. An additional eight percent had completed work toward a graduate degree.

* * * * *

TABLE 8: MOTHERS' EDUCATIONAL ATTAINMENT

Question 18: What is the highest educational level completed by your mother?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Education Level	602	682	1,284	108	168	276	710	850	1,560
Less than high school graduate	28.3%	23.2%	25.5%	24.1%	25.6%	25.0%	27.6%	23.6%	25.4%
High school grad.	58.5	58.4	58.4	58.3	53.6	55.4	58.5	57.4	57.9
Associate degree	6.3	9.7	8.1	12.0	10.1	10.9	7.2	9.8	8.6
Bachelor's degree	4.7	7.0	5.9	1.9	7.1	5.1	4.2	7.1	5.8
First prof. degree	0.0	0.6	0.3	1.9	0.6	1.1	0.3	0.6	0.4
Master's degree	2.0	1.2	1.6	1.9	3.0	2.5	2.0	1.5	1.7
Specialist's degree	0.3	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.1
Doctor's degree	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 8 represents the highest educational levels completed by the graduates' mothers. Twenty-five percent had not received high school diplomas, and an additional 58 percent had received diplomas but had not completed any postsecondary level degree work. Nine percent of the mothers' highest educational level completed was the associate degree, six percent the bachelor's degree, and an additional two percent had completed graduate degree work.

* * * * *

PART IV

EDUCATIONAL BACKGROUNDS AND FUTURE PLANS FOR EDUCATION

TABLE 9: INTERRUPTION OF FORMAL EDUCATION

Question 5: Since completing your high school studies, have you ever interrupted your formal education for an extended period of time?

	Public			Independent			All		
Interrupted	M 598	F 680	T 1,278	M 108	F 168	T 276	M 706	F 848	T 1,554
Yes	45.5%	36.5%	40.7%	43.5%	32.7%	37.0%	45.2%	35.7%	40.0%
No	54.5	63.5	59.3	56.5	67.3	63.0	54.8	64.3	60.0

The data of Table 9 indicate that forty percent of the respondents had interrupted their formal education for an extended period of time since completing high school. Significantly more males than females had experienced such an interruption. The difference between the responses from public and independent institutions was not significant.

* * * * *

TABLE 10: GRADE AVERAGES - OVERALL AND MAJOR FIELD OF STUDY

Questions 6 and 7: What is your approximate overall (major field of study) average grade in college?

	Public			Independent			All		
Grade Average	M 602	F 680	T 1,282	M 106	F 167	T 273	M 708	F 847	T 1,555
Overall									
A- to A+	19.3%	16.8%	17.9%	9.4%	16.2%	13.6%	17.8%	16.6%	17.2%
B- to B+	55.5	58.8	57.3	55.7	52.1	53.5	55.5	57.5	56.6
C+ or lower	25.3	24.4	24.8	34.9	31.7	33.0	26.7	25.8	26.3
Major Field									
A- to A+	41.3	25.8	33.0	24.3	18.6	20.8	38.7	24.4	30.9
B- to B+	47.3	54.3	51.0	63.6	54.5	58.0	49.8	54.3	52.3
C+ or lower	11.4	19.9	16.0	12.1	26.9	21.2	11.5	21.3	16.9

Seventeen percent of the respondents reported overall grade averages of A- or higher. An additional 57 percent reported averages of B- to B+, and the remaining 26 percent indicated that their averages were lower than B-. Males and females did not differ significantly regarding their overall grade averages.

Grades were noticeably higher for the graduates' major fields of study, where 31 percent reported averages of A- or above. Fifty-two percent indicated that their grade average in their major was B- to B+ and only seventeen percent had averages falling below B-. The reported major field grade averages for males were much higher than those for females, with 39 percent of the males reporting A averages compared to 24 percent of the females.

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TABLE 11: FIRST DECLARED AND CURRENT MAJOR FIELDS OF STUDY

Questions 8 & 9: What was your first (is your current) major field of study?

Field of Study	First Declared Major						Current Major					
	M		F		T		M		F		T	
	n	%	n	%	n	%	n	%	n	%	n	%
Business and Commerce Technologies	127	17.9	170	20.0	297	19.0	152	21.4	175	20.6	327	20.9
Business and commerce tech., general	47	6.6	9	1.1	56	3.6	47	6.6	15	1.8	62	4.0
Accounting	47	6.6	47	5.5	94	6.0	52	7.3	47	5.5	99	6.3
Banking and finance	4	0.6	1	0.1	5	0.3	2	0.3	2	0.2	4	0.3
Marketing, distribution, purchasing	15	2.1	7	0.8	22	1.4	20	2.8	7	0.8	27	1.0
Secretarial technologies	0	0.0	98	11.5	98	6.3	0	0.0	97	11.4	97	6.2
Other business and commerce	14	2.0	8	0.9	22	1.4	31	4.4	7	0.8	38	2.4
Health Service and Paramedical Technologies	26	3.7	425	50.0	451	28.9	46	6.5	542	63.8	588	37.6
Dental health technologies	6	0.8	22	2.6	28	1.8	6	0.8	38	4.5	44	2.8
Medical laboratory technologies	0	0.0	13	1.5	13	0.8	1	0.1	12	1.4	13	0.8
Nursing	10	1.4	357	42.0	367	23.5	27	3.8	446	52.5	473	30.3
Medical therapy technologies	4	0.6	4	0.5	8	0.5	6	0.8	11	1.3	17	1.1
Other allied health	6	0.8	29	3.4	35	2.2	6	0.8	35	4.1	41	2.6
Mechanical and Engineering Technologies	305	43.0	13	1.5	320	20.5	358	50.4	16	1.9	376	24.1
Aeronautical and aviation technologies	36	5.1	0	0.0	36	2.3	44	6.2	2	0.2	46	2.9
Graphics and drafting technologies	49	6.9	8	0.9	57	3.6	50	7.0	10	1.2	60	3.8
Automotive technologies	38	5.4	0	0.0	38	2.4	36	5.1	0	0.0	36	2.3
Electronics and machine technologies	107	15.1	2	0.2	109	7.0	127	17.9	2	0.2	129	8.3
Other mechanical and engineering	75	10.6	3	0.4	80	5.1	101	14.2	2	0.2	105	6.7
Miscellaneous Associate Degree Programs	104	14.6	64	7.5	168	10.8	154	21.7	115	13.5	269	17.2
Data processing technologies	37	5.2	20	2.4	57	3.6	27	3.8	22	2.6	49	3.1
Natural science technologies	0	0.0	2	0.2	2	0.1	5	0.7	1	0.1	6	0.4
Public service-related technologies	21	3.0	13	1.5	34	2.2	35	4.9	18	2.1	53	3.4
Other associate degree programs	46	6.5	29	3.4	75	4.8	87	12.3	74	8.7	161	10.3
Bachelor's level programs	145	20.4	172	20.2	317	20.3	--	--	--	--	--	--
No response	3	0.4	6	0.7	9	0.6	0	0.0	2	0.2	2	0.1
Total	710	100.0	850	100.0	1,562	100.0	710	100.0	850	100.0	1,562	100.0

All four of the general associate degree areas of study witnessed increases in their numbers of majors when the first declared majors are compared with the current majors of the respondents. This is due to the fact that twenty percent of the graduates had initially entered bachelor's degree programs and had later changed to the associate level.

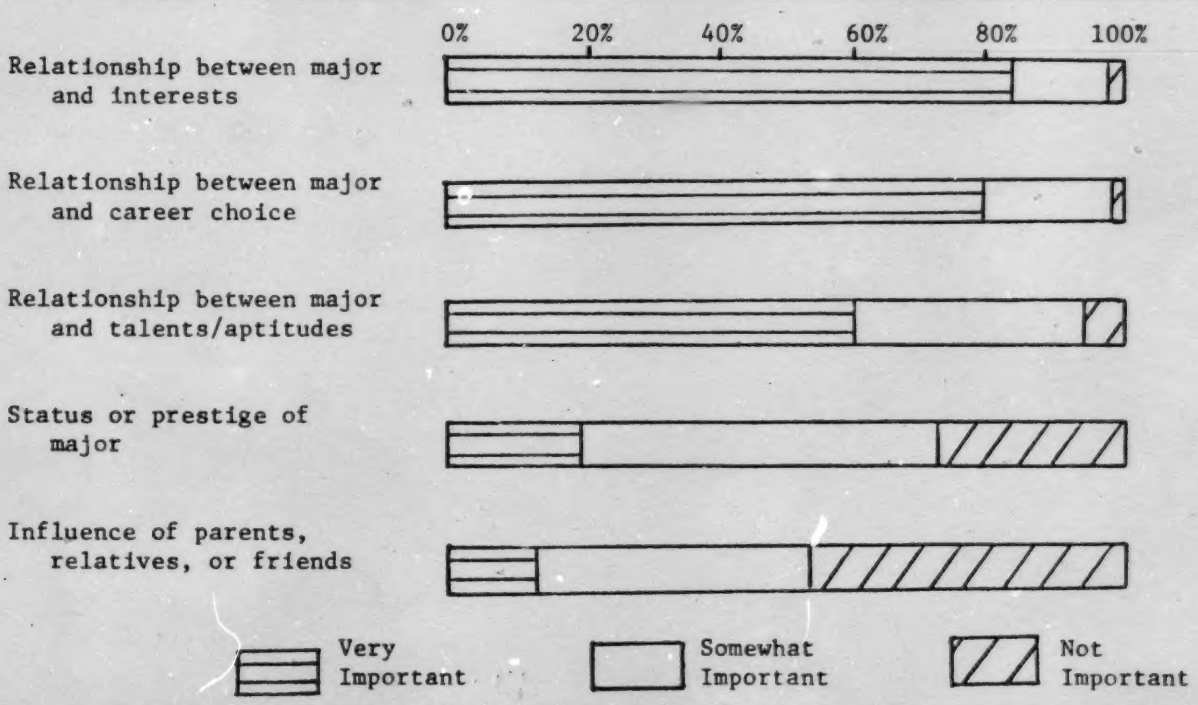
The health service and paramedical technologies claimed the highest percentage of current majors (38 percent) and nursing was the specific field of study with the most majors (30 percent). Fields in the mechanical and engineering technologies were the current majors of 24 percent of the respondents while 21 percent were in business and commerce technologies and seventeen percent were in miscellaneous associate degree programs, which include data processing technologies, natural science technologies, and the service-related technologies.

The sexes differed greatly in their current majors. Sixty-four percent of the females were in the area of health service and paramedical technologies compared to only seven percent of the males, while half of the males and only two percent of the females were in mechanical and engineering technologies. Approximately 21 percent of the respondents of each sex were in business and commerce technologies, and 22 percent of the males and fourteen percent of the females were in the miscellaneous associate degree programs category.

* * * * *

FIGURE 1: IMPORTANCE OF FACTORS IN SELECTING MAJOR FIELDS OF STUDY

Questions 11-15: How important has each of the following been to you in the selection of your present degree program or major field of study?



The relationships between the major field of study and respondents' interests and career choices were indicated as the most important factors considered in choosing a major. About sixty percent also indicated that the relationship between their major fields and their talents/aptitudes was very important. The status or prestige of the major field and the influence of parents, relatives, or friends were each at least somewhat important to a majority of the graduates, but these factors appear to have had much less importance than the initial three factors.

* * * * *

TABLE 12: EXPECTED FUTURE MAJOR FIELDS OF STUDY

Question 10: What will be your future major field of study?

	Males		Females		Total	
Fields of Study	n	%	n	%	n	%
Business/management	149	30.7	47	8.4	196	18.8
Sciences	8	1.6	8	1.4	16	1.5
Biological sciences	6	1.2	6	1.1	12	1.2
Physical sciences	2	0.4	2	0.4	4	0.4
Engineering	139	28.7	7	1.3	146	14.0
Liberal Arts	36	7.4	10	1.8	46	4.4
Architecture, environmental design	14	2.9	0	0.0	14	1.3
Communications, journalism	0	0.0	2	0.4	2	0.2
Fine & applied arts	15	3.1	6	1.1	21	2.0
Foreign languages	4	0.8	0	0.0	4	0.4
Letters (Eng., folklore, linguistics, literature, speech, philo, religion)	3	0.6	2	0.4	5	0.5
Social Sciences	41	8.5	43	7.7	84	8.2
Economics	4	0.8	0	0.0	4	0.4
History	0	0.0	0	0.0	0	0.0
Home economics	0	0.0	6	1.1	6	0.6
Library science	1	0.2	2	0.4	3	0.3
Political science/government	5	1.0	0	0.0	5	0.5
Psychology	10	2.1	19	3.4	29	2.8
Public affairs & services	16	3.3	13	2.3	29	2.8
Sociology	5	1.0	3	0.5	8	0.8
Other (anthrop., geog., internat'l relations)	0	0.0	0	0.0	0	0.0
Math/Computer Sciences	17	3.5	19	3.4	36	3.5
Math/statistics	0	0.0	5	0.9	5	0.5
Computer & information sciences	17	3.5	14	2.5	31	3.0
Education	29	6.0	37	6.6	66	6.3
Elem. & pre-elem. education	2	0.4	11	2.0	13	1.2
Secondary education	13	2.7	3	0.5	16	1.5
Special education	2	0.4	6	1.1	8	0.8
Health & physical education	4	0.8	4	0.7	8	0.8
Education administration	0	0.0	0	0.0	0	0.0
Counseling & guidance	0	0.0	2	0.4	2	0.2
Other education fields	8	1.6	11	2.0	19	1.8
Health	34	7.0	378	67.9	412	39.5
Allied health	5	1.0	9	1.6	14	1.3
Dentistry	0	0.0	7	1.3	7	0.7
Nursing	19	3.9	335	60.1	354	34.0
Optometry	0	0.0	0	0.0	0	0.0
Pharmacy	2	0.4	2	0.4	4	0.4
Physician	0	0.0	3	0.5	3	0.3
Therapy(occup. & physical)	3	0.6	6	1.1	9	0.9
Veterinary	0	0.0	0	0.0	0	0.0
Other health	5	1.0	16	2.9	21	2.0
Other Majors	32	6.6	8	1.4	40	3.8
Agric./nat'l resources/forestry	4	0.8	0	0.0	4	0.4
Area studies	2	0.4	0	0.0	2	0.2
Interdisciplinary studies	0	0.0	0	0.0	0	0.0
Law/pre-law	20	4.1	5	0.9	25	2.4
Double major	6	1.2	3	0.5	9	0.9
Total	485	100.0	557	100.0	1,042	100.0

Table 12 represents the expected future major fields of study of the graduates. More than 1,000 or approximately two-thirds of all the respondents, indicated choices in this regard. Of these, forty percent, including 68 percent of the females, expected to pursue further education in health-related fields. Nineteen percent of the graduates, including 31 percent of the males, expected to study business and fourteen percent including 29 percent of the males, expected to study engineering. The social sciences were the future choice of eight percent of the respondents, while six percent expected to pursue studies in education, four percent in the liberal arts, four percent in mathematics/computer science, two percent in the sciences, and four percent in other areas. It appears that those among the associate degree recipients who plan to pursue further formal education generally choose fields of study, such as health, business, and engineering, which relate closely to specific occupations.

* * * * *

TABLE 13: HIGHEST DEGREE EXPECTED TO COMPLETE

Question 16: What is the highest level of education you expect to complete?

Education Level	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
	600	680	1,280	108	168	276	708	848	1,536
Associate	30.7%	33.5%	32.2%	19.4%	33.3%	27.9%	29.0%	33.5%	31.4%
Bachelor's	46.7	47.9	47.3	52.8	47.0	49.3	47.6	47.8	47.7
First prof.	1.3	1.2	1.2	7.4	1.2	3.6	2.3	1.2	1.7
Master's	18.0	15.3	16.6	19.4	14.3	16.3	18.2	15.1	16.5
Specialist's	0.0	0.3	0.2	0.0	2.4	1.4	0.0	0.7	0.4
Doctor's	3.3	1.8	2.5	0.9	1.8	1.4	3.0	1.8	2.3

Table 13 reflects the future educational goals of the graduates. Only 31 percent of the respondents expected that the associate degree was the highest educational level that they would complete. Nearly half (48 percent) expected that the bachelor's would be their highest degree, and an additional 21 percent expected to complete graduate level degrees, most of them indicating the master's level. Males appeared to have somewhat higher degree aspirations than females, and the graduates of independent institutions had higher aspirations than those of the public sector.

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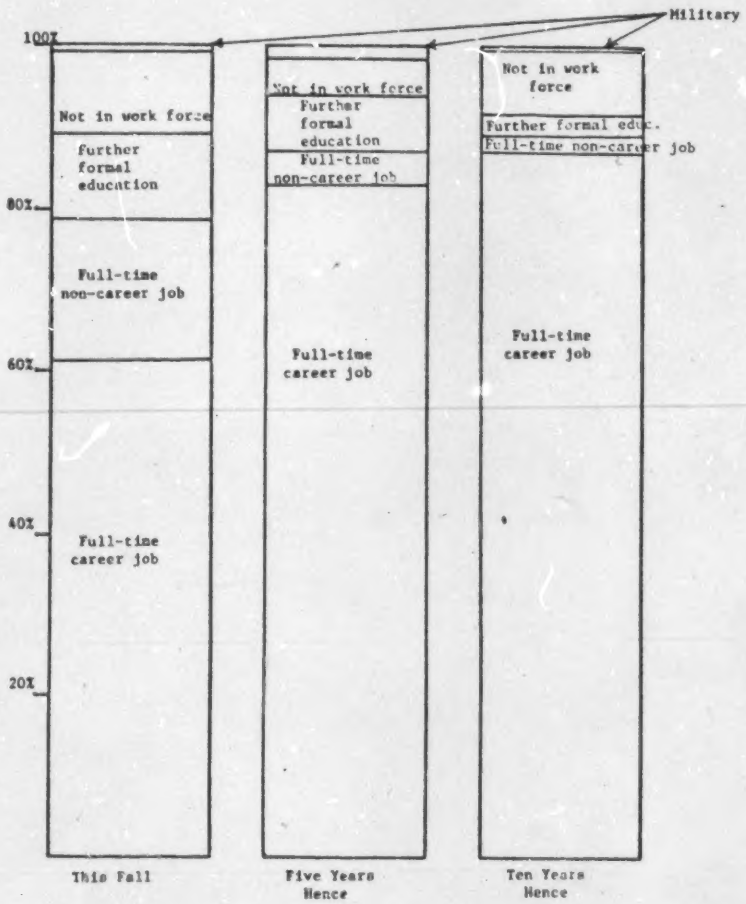
PART V

OCCUPATION AND CAREER PLANS AND ASPIRATIONS

FIGURE 2: EXPECTED FUTURE ACTIVITIES

Questions 54-56: Which one of the five choices best describes what you expect to be your primary activity this fall, about five years from now, about ten years from now?

Figure 2 represents the expected primary activities of the graduates for next fall, five years hence, and ten years hence.



Approximately sixty percent of the respondents expected to be working in full-time career jobs in the fall subsequent to their graduation. For five years hence this figure rises to 83 percent and, ten years hence, 87 percent expected to occupy full-time career jobs.

Eighteen percent of the respondents expected to be employed at full-time non-career jobs in the fall. For five years hence this figure drops to four percent, and decreases to two percent for ten years in the future.

Eleven percent of the graduates expected to be engaged in further formal education this fall. Five years hence eight percent listed further education as their primary activity, and for ten years hence this figure drops to three percent.

Ten percent of the respondents did not expect to be in the work force in the fall after receiving the associate degree. For five years hence this figure drops to four percent, then rises to eight percent of the respondents ten years hence as more females expect to marry and leave the work force.

One percent of the respondents expected to be in the military this fall and five years hence, with this figure declining to 0.3 percent for ten years from now.

TABLE 14: EXPECTED FUTURE ACTIVITIES

Questions 54-56:

Activity	This Fall							5 Years Hence							Ten Years Hence						
	Public		Indep.		All			Public		Indep.		All			Public		Indep.		All		
	M	F	M	F	M	F	T	M	F	M	F	M	F	T	M	F	M	F	M	F	T
	598	680	108	168	706	848	1,554	598	682	108	168	706	850	1,558	598	678	108	275	706	845	1,551
Full-time career job	47.5%	71.2%	52.8%	74.4%	48.3%	71.8%	61.1%	88.3%	78.0%	88.0%	80.4%	88.2%	78.5%	82.9%	94.6%	79.9%	98.1%	78.4%	95.2%	79.6%	86.7%
Full-time non-car. job	21.7	13.8	30.6	11.3	23.1	13.3	17.8	5.4	2.6	6.5	2.4	5.5	2.6	3.9	3.0	2.1	0.9	0.6	2.7	1.8	2.2
Military service	1.0	0.3	1.9	0.0	1.1	0.2	0.6	0.7	1.2	0.0	1.2	0.6	1.2	0.9	0.3	0.3	0.0	0.0	0.3	0.2	0.3
Grad. or prof. study	13.7	9.1	9.3	7.7	13.0	8.8	10.7	5.0	11.4	4.6	6.0	5.0	10.4	7.9	1.3	3.5	0.0	6.0	1.1	4.0	2.7
Not in work force	16.1	5.6	5.6	6.5	14.4	5.8	9.7	0.7	6.7	0.9	10.1	0.7	7.4	4.4	0.7	14.2	0.9	15.0	0.7	14.3	8.1

Sixty-one percent of the graduates expected to be employed in career jobs in the fall subsequent to their graduation, with an additional eighteen percent expecting to be working at non-career jobs. Eleven percent indicated that they expected to be engaged primarily in further study, while ten percent did not expect to be in the work force and 0.6 percent planned to enter military service. More females than males expected to be working at career jobs, while proportionately more males expected to be engaged in non-career jobs, further study, or outside the work force.

Eighty-three percent expected to be working in career jobs five years hence with another four percent anticipating non-career jobs. Eight percent expected to be engaged in further study at that time with one percent expecting to be in the military and four percent expecting to be outside the labor force. Males and females again differed greatly. Higher percentages of males expected to be employed at career jobs or non-career jobs, while more females anticipated further study or being outside the work force.

Ten years hence 87 percent of the respondents expected to be engaged in career jobs, including 95 percent of the males and eighty percent of the females. Fourteen percent of the females expected to be outside of the work force and four percent anticipated being engaged in further study.

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TABLE 15: PRIMARY FALL ACTIVITY BY AREA OF STUDY

Questions 9 & 54:

Activity	Business & Commerce Tech. n	%	Health Tech. n	%	Mechanical Engineering Tech. n	%	Miscellaneous Associate Degrees* n	%	Total n	%
Career job	186	57.2	477	81.4	176	47.1	109	40.5	948	61.1
Non-career job	91	28.0	51	8.7	81	21.7	55	20.4	278	17.8
Military service	1	0.3	3	0.5	4	1.1	2	0.7	10	0.6
Further study	20	6.2	42	7.2	59	15.8	46	17.1	167	10.7
Not in work force	27	8.3	13	2.2	54	14.4	57	21.2	151	9.7

* Includes data processing technologies, natural science technologies, public service related technologies, and other associate degree programs

Table 15 indicates that the expected primary fall activity of the graduates differed greatly when their major areas of study were taken into account. Sixty-one percent of the respondents expected to be employed in career jobs. However, this proportion ranged from 81 percent in the health technologies area to 41 percent in the miscellaneous area. Eighteen percent expected to be working at non-career jobs, ranging from 28 percent in the business and commerce technologies to nine percent in the health technologies. Overall, eleven percent of the respondents expected to be engaged in further study, ranging from seventeen percent in the miscellaneous area to six percent among the business and commerce graduates. Whereas only two percent of the health technologies graduates expected to be outside the work force, 21 percent of the miscellaneous area graduates indicated such plans. One percent or less of the respondents of all areas anticipated being in the military.

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TABLE 16: DEFINITENESS OF PLANS

Questions 57-59: How definite do you consider the expectations marked in questions 54-56 (concerning primary future activities)?

Degree of Definiteness	Public M 596	Public F 682	Public T 1,278	Independent M 108	Independent F 168	Independent T 276	All M 704	All F 850	All T 1,554
This Fall									
Very definite	54.0%	66.8%	60.8%	51.9%	67.3%	61.2%	53.7%	66.9%	60.9%
Somewhat definite	30.5	21.2	25.5	31.5	17.3	22.8	30.7	20.4	25.1
Highly indefinite	15.4	12.1	13.6	16.7	15.5	15.9	15.6	12.7	14.0
5 Years Hence									
Very definite	46.0	34.3	39.7	39.8	32.7	35.5	45.0	34.0	39.0
Somewhat definite	40.9	56.0	49.0	44.4	52.4	49.3	41.5	55.3	49.0
Highly indefinite	13.1	9.7	11.3	15.7	14.9	15.2	13.5	10.7	12.0
10 Years Hence									
Very definite	49.5	32.0	40.2	43.5	26.2	33.0	48.6	30.8	38.9
Somewhat definite	33.1	50.4	42.3	35.2	54.2	46.7	33.4	51.2	43.1
Highly indefinite	17.4	17.6	17.5	21.3	19.6	20.3	18.0	18.0	18.0

A large majority of the graduates were very definite concerning their expected primary activity for the fall. Two-thirds of the females and slightly more than half of the males indicated that their plans were very definite. One quarter of the respondents claimed that their plans were somewhat definite, and fourteen percent noted that their plans for the fall were highly indefinite.

Primary activities for five years hence were less certain as 39 percent of the respondents were very definite about their plans, 49 percent were somewhat definite, and twelve percent were highly indefinite. In this case, males were much more certain of their plans than were females.

Again, 39 percent of the respondents were very definite about their plans for ten years hence. However, the difference between males and females had grown, with 49 percent of the males very definite compared to 31 percent of the females.

It is noteworthy that nearly as many males were very definite about their primary activities ten years hence as about their fall plans, while far fewer females were very definite about their long-range plans than their fall plans.

Forty-three percent of the respondents were somewhat definite about their plans ten years hence and eighteen percent of both males and females were highly indefinite concerning these expectations.

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TABLE 17: TYPE OF ACTIVITY BY DEGREE OF DEFINITENESS OF ACTIVITY

Questions 54 and 57, 55 and 58, 56 and 59:

Degree of Definiteness	Career Job		Non-career Job		Military service		Further study		Not in work force		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
This Fall												
Very definite	611	64.3	132	47.5	5	50.0	112	67.9	87	57.6	947	60.9
Somewhat def.	218	22.9	108	38.8	2	20.0	26	15.8	35	23.2	389	25.0
Highly indef.	121	12.7	38	13.7	3	30.0	27	16.4	29	19.2	218	14.0
5 Years Hence												
Very definite	560	43.4	6	9.8	0	0.0	35	28.5	5	7.4	606	38.9
Somewhat def.	582	45.1	44	72.1	12	85.7	73	59.3	53	77.9	764	49.1
Highly indef.	148	11.5	11	18.0	2	14.3	15	12.2	10	14.7	186	12.0
10 Years Hence												
Very definite	572	42.5	6	17.6	0	0.0	2	4.8	21	16.7	601	38.7
Somewhat def.	547	40.7	17	50.0	4	100.0	28	66.7	75	59.5	671	43.3
Highly indef.	226	16.8	11	32.4	0	0.0	12	28.6	30	23.8	279	18.0

The degree to which the graduates were definite about their future activities appears to be related to the type of activity they anticipate. For the fall, those planning either further study or career jobs were the most definite, and the least definite were those planning on working at non-career jobs or being outside the work force. For five years hence, those planning on being employed at career jobs were clearly the most definite while non-career job, military service, and being outside the work force were all approximately equivalent in being much less definite. For ten years hence, career job is still, by far, the activity about which respondents were most certain, while further study elicited the least definite responses.

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TABLE 18: OCCUPATION AND CAREER CHOICES OF RESPONDENTS

Questions 21-23: In which occupation do you expect to be working next fall, five years from now, long-term career?

Occupations and Careers	Next Fall		5 Years Hence		Long-Term Career	
	n	%	n	%	n	%
Professional, Technical, & Kindred	876	56.8	1,101	71.0	1,158	74.5
Engineers	12	0.8	61	3.9	65	4.2
Life scientists	2	0.1	6	0.4	7	0.5
Physical scientists	0	0.0	0	0.0	0	0.0
Math specialists	0	0.0	0	0.0	0	0.0
Medical workers	465	30.1	446	28.8	448	28.8
Dentists	0	0.0	0	0.0	0	0.0
Optometrists	0	0.0	0	0.0	0	0.0
Pharmacists	0	0.0	2	0.1	2	0.1
Physicians/surgeons	0	0.0	0	0.0	5	0.3
RNs	451	29.2	427	27.5	417	26.8
Therapists	14	0.9	12	0.8	18	1.2
Veterinarians	0	0.0	0	0.0	0	0.0
Other medical workers	0	0.0	5	0.3	6	0.4
Technicians (health)	83	5.4	66	4.3	76	4.9
Clinical/medical lab technicians	14	0.9	9	0.6	11	0.7
Dental hygienists/lab technicians	42	2.7	36	2.3	42	2.7
LPNs	0	0.0	0	0.0	0	0.0
Therapy technicians	4	0.3	6	0.4	6	0.4
Other health technicians	23	1.5	15	1.0	17	1.1
Technicians (science & engineering)	89	5.7	99	6.4	94	6.0
Science technicians	2	0.1	7	0.5	13	0.8
Engineering technicians	87	5.6	92	5.9	81	5.2
Technicians (other)	72	4.7	76	4.9	73	4.7
Aviation technicians	20	1.3	37	2.3	38	2.4
Other technicians, nec	52	3.4	40	2.6	35	2.3
Computer specialists	36	2.3	53	3.4	57	3.7
Psychologists	0	0.0	7	0.5	20	1.3
Social scientists	2	0.1	6	0.4	6	0.4
Education professions	16	1.0	95	6.1	103	6.6
Elem. & pre-school teachers	2	0.1	15	1.0	17	1.1
Secondary school teachers	1	0.1	22	1.4	25	1.6
College teachers	0	0.0	25	1.6	30	1.9
Special ed. professions	8	0.5	17	1.1	11	0.7
School counselors	2	0.1	0	0.0	0	0.0
Other educ. professions	3	0.2	16	1.0	20	1.3
Writers, artists, entertainers	29	1.8	49	3.2	54	3.5
Writers & kindred	2	0.1	5	0.3	9	0.6
Artists & entertainers	27	1.7	44	2.8	45	2.9
Other prof. technical, & kindred	70	4.5	137	8.8	155	10.0
Accountants & auditors	54	3.5	83	5.4	81	5.2
Architects	2	0.1	10	0.6	18	1.2
Clergy & kindred	2	0.1	3	0.2	1	0.1
Lawyers & judges	0	0.0	6	0.4	15	1.0
Librarian, curators, archivists	5	0.3	3	0.2	6	0.4
Social workers	2	0.1	15	1.0	18	1.2
Other	5	0.3	17	1.1	16	1.0
Managers, Officials, & Proprietors	67	4.3	139	9.0	140	9.0
Buyers, sales, loan managers	16	1.0	38	2.5	40	2.6
Bank & financial managers	5	0.3	9	0.6	8	0.5
Buyers	8	0.5	12	0.8	12	0.8
Sales managers	3	0.2	17	1.1	20	1.3
Administrators & public inspectors	12	0.8	19	1.2	23	1.5
Health administrators	0	0.0	4	0.3	7	0.5
School administrators	0	0.0	1	0.1	1	0.1
Other administrators	10	0.6	14	0.9	15	1.0
Inspectors, public	2	0.1	0	0.0	0	0.0
Other managers, officials & proprietors	39	2.5	82	5.3	77	5.0
Office managers, nec	20	1.3	43	2.8	39	2.5
Other managers & administrators	19	1.2	39	2.5	38	2.4
Sales Workers	34	2.2	19	1.2	21	1.4
Insurance agents & brokers	2	0.1	3	0.2	3	0.2
Real estate agents & brokers	6	0.4	3	0.2	5	0.3
Stock & bond sales	0	0.0	2	0.1	3	0.2
Sales clerk - retail	15	1.0	4	0.3	0	0.0
Other sales personnel	11	0.7	7	0.5	10	0.6

TABLE 18: (continued)

Occupations and Careers	Next Fall		5 Years Hence		Long-Term Career	
	n	%	n	%	n	%
Clerical Workers	151	9.8	94	6.1	94	6.0
Secretaries, stenographers, typists	91	5.9	74	4.8	78	5.0
Secretaries, & stenographers	88	5.7	74	4.8	78	5.0
Typists	3	0.2	0	0.0	0	0.0
Office machine operators	12	0.8	6	0.4	6	0.4
Keypunch & computer equipment	6	0.4	4	0.3	0	0.0
Other	6	0.4	2	0.1	6	0.4
Other clerical	48	3.1	14	0.9	10	0.6
Bookkeepers	25	1.6	5	0.3	6	0.4
Cashiers	4	0.3	2	0.1	0	0.0
Other	19	1.2	7	0.5	4	0.3
Craftsmen, Foremen, & Kindred	98	6.4	81	5.2	78	5.0
Construction craftsmen	22	1.4	10	0.6	4	0.3
Construction machine operator	4	0.3	2	0.1	0	0.0
Electrician	8	0.5	6	0.4	4	0.3
Other construction craftsmen	10	0.6	2	0.1	0	0.0
Metal working craftsmen	5	0.3	4	0.3	2	0.1
Foremen, nec	10	0.6	8	0.5	10	0.6
Mechanics, repairmen, & installers	50	3.2	50	3.2	53	3.4
Air cond., heating, refrig., workers	10	0.6	12	0.8	12	0.8
Automotive workers	26	1.7	26	1.7	29	1.9
Heavy equipment & diesel mechanics	4	0.3	4	0.3	4	0.3
Other mechs. & repairmen	10	0.6	8	0.5	8	0.5
Printing trade craftsmen	9	0.6	6	0.4	6	0.4
Transp. & public util. craftsmen	0	0.0	0	0.0	0	0.0
Other craftsmen & kindred	2	0.1	3	0.2	3	0.2
Operatives	10	0.6	4	0.3	2	0.1
Operatives other than transportation	8	0.5	4	0.3	2	0.1
Semi-skilled metalworking	4	0.3	4	0.3	2	0.1
Semi-skilled textile	2	0.1	0	0.0	0	0.0
Semi-skilled packing & inspecting	0	0.0	0	0.0	0	0.0
Other	2	0.1	0	0.0	0	0.0
Transportation equip. operatives	2	0.1	0	0.0	0	0.0
Service Workers	47	3.0	51	3.3	49	3.2
Cleaning service	0	0.0	0	0.0	0	0.0
Food service	7	0.5	2	0.1	3	0.2
Health service	6	0.4	1	0.1	1	0.1
Personal service	4	0.3	10	0.6	7	0.5
Protective service	30	1.9	38	2.5	38	2.4
Private household	0	0.0	0	0.0	0	0.0
Laborers (non-farm)	17	1.1	2	0.1	2	0.1
Farmers & Farm Workers	8	0.5	3	0.2	3	0.2
Farmer & farm managers	4	0.3	3	0.2	3	0.2
Farm laborers & foremen	4	0.3	0	0.0	0	0.0
Other	235	15.2	57	3.7	8	0.5
Military	2	0.1	7	0.5	2	0.1
Housewife	7	0.5	37	2.4	6	0.4
Student	226	14.6	13	0.8	0	0.0
Total	1,543	100.0	1,551	100.0	1,555	100.0

The data of Table 18 represent the occupation and career choices of the graduates for next fall, five years hence, and for their long-term careers. In all three time frames nursing was, by far, the most common choice. Nearly 30 percent of the respondents hoped to be nurses in the fall, and 27 percent planning on making their long-term career in nursing.

Fifteen percent of the respondents expected to be students in the fall. However, only one percent thought that being a student would be their primary activity five years hence. This indicates that many of those who plan to pursue degrees beyond the associate level (Table 13) expect to continue their formal education on a part-time basis.

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TABLE 19: RESPONDENTS' EXPECTATIONS CONCERNING THEIR OCCUPATIONS AND CAREERS (CATEGORIZED)

Questions 21-23:

	Next Fall							5 Years Hence							Long-Term Career						
	Public		Indep.		All			Public		Indep.		All			Public		Indep.		All		
Occupational Category	M 596	F 682	M 108	F 167	M 704	F 849	T 1,553	M 590	F 678	M 106	F 167	M 696	F 845	T 1,541	M 596	F 682	M 105	F 166	M 701	F 848	T 1,549
Prof., tech., kind.	39.7%	72.0%	42.5%	65.3%	40.1%	70.7%	56.8%	63.8%	78.0%	59.0%	76.5%	63.1%	77.7%	71.1%	66.8%	83.0%	57.4%	79.0%	65.3%	82.2%	74.6%
Mgr., off., prop	7.5	0.6	14.2	2.4	8.5	0.9	4.3	14.8	2.3	23.8	6.0	16.1	3.1	9.0	13.4	3.2	23.1	7.8	14.9	4.1	9.0
Sales workers	2.7	1.2	6.6	1.8	3.3	1.3	2.2	2.0	0.6	2.9	0.0	2.1	0.5	1.2	2.3	0.3	4.6	0.0	2.7	0.2	1.4
Clerical workers	1.7	16.2	3.8	16.2	2.0	16.2	9.8	0.3	11.4	0.0	8.4	0.3	10.8	6.1	0.3	11.1	0.0	9.6	0.3	10.8	6.1
Crafts.,foremen, kind	15.9	0.0	3.8	0.0	14.1	0.0	6.4	13.1	0.0	1.0	0.0	11.3	0.0	5.1	12.4	0.0	1.9	0.0	10.8	0.0	4.9
Operatives	1.4	0.3	0.0	0.0	1.1	0.2	0.6	0.3	0.3	0.0	0.0	0.3	0.2	0.3	0.3	0.0	0.0	0.0	0.3	0.0	0.1
Service workers	3.7	1.5	10.4	2.4	4.7	1.7	3.0	3.4	2.1	12.4	2.4	4.7	2.1	3.3	3.4	1.8	12.0	2.4	4.7	1.9	3.2
Laborers	2.0	0.0	2.8	0.0	2.2	0.0	1.0	0.3	0.0	0.0	0.0	0.3	0.0	0.1	0.3	0.0	0.0	0.0	0.3	0.0	0.1
Farmers, farm workers	1.0	0.0	1.9	0.0	1.1	0.0	0.5	0.3	0.0	1.0	0.0	0.4	0.0	0.2	0.3	0.0	0.9	0.0	0.4	0.0	0.2
Military	0.3	0.0	0.0	0.0	0.3	0.0	0.1	0.3	0.6	0.0	0.6	0.3	0.6	0.5	0.3	0.0	0.0	0.0	0.3	0.0	0.1
Housewife	--	0.3	--	3.0	--	0.8	0.5	--	4.1	--	5.4	--	4.4	2.4	--	0.6	--	1.2	--	0.7	0.4
Student	24.1	8.0	14.2	9.0	22.6	8.2	14.7	1.3	0.6	0.0	0.6	1.1	0.6	0.8	--	--	--	--	--	--	--

Table 19 represents the occupational choices, by category, of the graduates for next fall, five years hence, and for a long-term career, presented by sex of respondents and type of institution attended. The manpower supply rises over time as those expecting to be students this fall eventually enter the labor force. Many of the females expecting to be occupied as housewives five years hence also expect to reenter the labor force at some future point.

Fifty-seven percent of the respondents expected to be employed in professional, technical, and kindred occupations in the fall. This figure rises to 75 percent for long-term careers, and includes 82 percent of the females and 65 percent of the males. Nine percent of the graduates expected to pursue careers in the managers, officials, and proprietors category, comprised of fifteen percent of the males and four percent of the females. Eleven percent of the females expected to pursue careers as clerical workers, matched by the eleven percent of the males planning careers as craftsmen, foremen and kindred. Higher percentages of respondents expected to be employed in these latter two categories for the fall than for their long-term careers.

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TABLE 20: RELATIONSHIP OF UNDERGRADUATE MAJOR TO CAREER ASPIRATION

Question 24: To what extent do you expect your long-term career to be related to your undergraduate major field of study?

	Public			Independent			All		
Degree of Relatedness	M 602	F 678	T 1,280	M 108	F 166	T 274	M 710	F 844	T 1,554
Highly related	71.1%	86.1%	79.1%	65.7%	84.3%	77.0%	70.3%	85.7%	78.7%
Somewhat related	26.6	12.1	18.9	29.6	11.4	18.6	27.0	12.0	18.9
Unrelated	2.3	1.8	2.0	4.6	4.2	4.4	2.7	2.3	2.4

Seventy-nine percent of the graduates expected that their long-term career would be highly related to their undergraduate major. An additional nineteen percent expected that their career field would be at least somewhat related to their major, and only 2.4 percent indicated that they expected to pursue a career unrelated to their major. Females, to a greater extent than males, expected a high degree of relationship between their career and their field of study.

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TABLE 21: UNDERGRADUATE MAJOR AND CAREER RELATEDNESS

Questions 9 & 24:

Degree of Relatedness	Business & Commerce Tech. n	%	Health Tech. n	%	Mechan. and Engr.Tech. n	%	Misc. Associate Degrees n	%	Total n	%
Highly related	234	72.0	533	91.0	260	69.1	198	74.2	1,225	78.8
Somewhat related	81	24.9	42	7.2	104	27.7	64	24.0	291	18.7
Unrelated	10	3.1	11	1.9	12	3.2	5	1.9	38	2.4
Total	325	100.0	586	100.0	376	100.0	267	100.0	1,554	100.0

When the relationship between the respondents' career choices and their fields of study was considered by the area of study, it was apparent that those in the health service and paramedical technologies most frequently anticipated careers closely related to study. The three other general areas of study were approximately equivalent in the degree to which careers were expected to be related to studies.

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TABLE 22: EXPECTED FALL OCCUPATIONAL CATEGORY BY MAJOR AREA OF STUDY

Questions 9 and 22:

Occupational Category	Business & Commerce Technologies		Health Technologies		Mechanical & Engineering Technologies		Miscellaneous Associate Degrees		Total	
	n	%	n	%	n	%	n	%	n	%
Prof., tech., kind.	69	21.4	551	94.0	175	47.0	79	30.4	874	56.7
Mgr.,off., prop.	44	13.6	0	0.0	8	2.2	15	5.8	67	4.3
Sales workers	19	5.9	1	0.2	4	1.1	10	3.8	34	2.2
Clerical workers	132	40.9	1	0.2	0	0.0	18	6.9	151	9.8
Crafts.,fore.,kind.	11	3.4	0	0.0	80	21.5	7	2.7	98	6.4
Operatives	2	0.6	0	0.0	6	1.6	2	0.8	10	0.6
Service workers	5	1.5	7	1.2	0	0.0	35	13.5	47	3.0
Laborers	3	0.9	0	0.0	6	1.6	8	3.1	17	1.1
Farmers & farm work.	2	0.6	0	0.0	4	1.1	2	0.8	8	0.5
Military service	0	0.0	0	0.0	0	0.0	2	0.8	2	0.1
Housewife	4	1.2	2	0.3	0	0.0	1	0.4	7	0.5
Student	32	9.9	24	4.1	89	23.9	81	31.2	226	14.7
Total	323	100.0	586	100.0	272	100.0	260	100.0	1,541	100.0

When the expected fall occupational categories of the respondents are considered by the area of study, vast differences in the responses of graduates are noted. The 57 percent of all the graduates who expected to be employed in the professional, technical, and kindred category included 94 percent of those from the health area, 47 percent from the mechanical and engineering technologies, 21 percent from the business and commerce technologies, and 30 percent from miscellaneous associate degree programs. Forty-one percent of those from business and commerce programs expected to be employed in clerical positions in the fall, while 31 percent from miscallaneous associate level programs and 24 percent from mechanical and engineering technologies expected to be pursuing further study. Twenty-two percent of the latter group expected to be employed in the craftsmen, foremen and kindred occupational category.

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TABLE 23: CAREER OCCUPATIONAL CATEGORY BY MAJOR AREA OF STUDY

Questions 9 and 21 :

Occupational Category	Business & Commerce Technologies		Health Technologies		Mechanical & Engineering Technologies		Misc. Associate Degrees		Total	
	n	%	n	%	n	%	n	%	n	%
Prof.,tech., kind.	126	38.5	573	97.8	275	73.9	182	67.9	1,156	74.4
Mgr.,off.,prop.	85	26.0	8	1.4	26	7.0	21	7.8	140	9.0
Sales workers	14	4.3	0	0.0	3	0.8	4	1.5	21	1.4
Clerical workers	91	27.8	1	0.2	0	0.0	2	0.7	94	6.1
Crafts.,fore., kind.	6	1.8	0	0.0	64	17.2	8	3.0	78	5.0
Operatives	0	0.0	0	0.0	2	0.5	0	0.0	2	0.1
Service workers	3	0.9	3	0.5	0	0.0	43	16.0	49	3.2
Laborers	0	0.0	0	0.0	0	0.0	2	0.7	2	0.1
Farmers & farm workers	1	0.3	0	0.0	2	0.5	0	0.0	3	0.2
Military service	0	0.0	0	0.0	0	0.0	2	0.7	2	0.1
Housewife	1	0.3	1	0.2	0	0.0	4	1.5	6	0.4
Total	327	100.0	586	100.0	372	100.0	268	100.0	1,553	100.0

The occupational categories of the respondents' career choices differed when considered by their area of study, but the differences were not as great as those for their fall expectations. Ninety-eight percent of the graduates from health programs expected to pursue careers in professional, technical, and kindred occupations, compared with 74 percent of the mechanical and engineering technologies graduates, 39 percent of those from business and commerce technologies, and 68 percent of those from miscellaneous associate degree programs. Of the business and commerce graduates, 28 percent planned to pursue careers in clerical occupations and 26 percent as managers, officials, or proprietors. Of those in mechanical and engineering technologies, seventeen percent expected careers in the craftsmen, foremen, and kindred category, while among the miscellaneous program graduates, sixteen percent expected to pursue careers in service areas and eight percent as managers, officials, or proprietors.

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TABLE 24: PROFESSIONAL, TECHNICAL, & KINDRED CAREER CHOICES BY MAJOR AREA OF STUDY

Questions 9 and 21:

Career Choice	Business & Commerce Technologies		Health Technologies		Mechanical & Engineer Technologies		Misc. Associate Degrees		Total	
	n	%	n	%	n	%	n	%	n	%
Engineers	0	0.0	0	0.0	60	21.8	5	2.7	65	5.6
Math-computer occup.	9	7.1	0	0.0	6	2.2	42	23.1	57	4.9
Medical workers	2	1.6	440	76.8	2	0.7	4	2.2	448	38.8
Health technicians	0	0.0	72	12.6	2	0.7	2	1.1	76	6.6
Technicians (non-health)	2	1.6	5	0.9	155	56.4	5	2.7	167	14.4
Education professions	9	7.1	34	5.9	18	6.5	42	23.1	103	8.9
Writers, artists, entertainers	8	6.3	4	0.7	12	4.4	28	15.4	52	4.5
Accountants, auditors	78	61.9	0	0.0	0	0.0	3	1.6	81	7.0
Other prof.,tech.,kind	18	14.3	18	3.1	20	7.3	51	28.0	107	9.3
Total	126	100.0	573	100.0	275	100.0	182	100.0	1,156	100.0

There are a number of subgroups of occupations within the occupational category of professional, technical, and kindred workers. Since approximately three-quarters of the respondents aspired to careers within that category, it is worthwhile to view the aspirants to these subgroups by their academic majors.

The data of Table 24 indicate that, for a great majority of the graduates, career aspirations were closely related to major areas of study. For example, 77 percent of the majors in health technologies planned on being medical workers and 56 percent of the majors in mechanical and engineering technologies expected to become technicians. However, many of these graduates, particularly those who aspired to careers as engineers and teachers, will probably require further formal education beyond the associate degree to meet their career goals.

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TABLE 25: DESIRED CAREER WORK ENVIRONMENTS

Question 60: In which of the following work environments do you hope to make your long-term career?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Environment	602	680	1,282	108	167	275	710	847	1,557
Self employed or private practice	21.6%	6.5%	13.6%	28.7%	4.2%	13.8%	22.7%	6.0%	13.6%
Business or industry	47.2	21.5	33.5	41.7	19.8	28.4	46.3	21.1	32.6
Educational inst.	6.0	10.3	8.3	2.8	6.0	4.7	5.5	9.4	7.6
Private research org.	2.7	0.9	1.7	2.8	1.8	2.2	2.7	1.1	1.8
Welfare agency	0.0	0.3	0.2	0.0	1.8	1.1	0.0	0.6	0.3
Military service	0.3	0.3	0.3	0.0	0.0	0.0	0.3	0.2	0.3
Gov't. or public serv.	9.6	4.4	6.9	15.7	3.6	8.4	10.6	4.3	7.1
Health care facility	4.7	51.8	29.6	5.6	54.5	35.3	4.8	52.3	30.6
Other	8.0	4.1	5.9	2.8	8.4	6.2	7.2	5.0	6.0

Thirty-three percent of the graduates expected that their career work environment would be in business or industry. This included 46 percent of the males and 21 percent of the females. Close behind in frequency of choice was health care facility, which was the expected career work environment for 31 percent of the respondents, comprised of 52 percent of the females and five percent of the males. Fourteen percent of the graduates, made up of 23 percent of the males and six percent of the females, expected to be self-employed or in private practice. An additional eight percent of the respondents expected to work in educational institutions and seven percent in public service or for the government. A total of 2.4 percent planned career environments in private research organizations, welfare agencies, or the military, and six percent expected career environments other than those mentioned above.

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TABLE 26: IMPORTANCE OF FACTORS IN CHOOSING LONG-TERM CAREER

Questions 28-42: How important has each of the following factors been to you in your choice of a long-term career?

Factor	Very Important		Somewhat Important		Not Important	
	n	%	n	%	n	%
Interest in work activities	1,091	69.9	423	27.1	46	2.9
Service to others	949	60.8	454	29.1	157	10.1
Work with people rather than things	889	57.0	362	23.2	309	19.8
Uses special talents/abilities	865	55.4	612	39.2	83	5.3
Security	846	54.2	612	39.2	102	6.5
Initial job opportunities	676	43.3	680	43.6	204	13.1
Opportunity for leadership	467	29.9	775	49.7	318	20.4
Independence	428	27.4	715	45.8	417	26.7
Desire to contribute to knowledge	396	25.4	713	45.6	453	29.0
Opportunity to get ahead rapidly	312	20.0	768	49.2	482	30.9
High income	309	19.8	998	64.0	253	16.2
Education requires less time	177	11.4	434	27.9	946	60.8
Status, prestige	168	10.8	893	57.2	501	32.1
Interest in travel	160	10.3	413	26.5	985	63.2
Allows free time	153	9.8	525	33.7	882	56.5

Interest in work activities appeared to be the most important factor considered by the respondents in choosing their careers. Other factors indicated by a majority of respondents as having been very important in making career decisions were being of service to others, working with people rather than things, the opportunity to use their special talents and abilities, and security. The only factors which were not important to a majority of the graduates were interest in travel, less education required for entrance to the occupation, and occupation allows more free time.

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TABLE 27: FACTORS INDICATED AS BEING VERY IMPORTANT IN MAKING CAREER CHOICES (TABLE 26, COLUMN 1)

Questions 28-42:

	Public			Independent			All		
Factors	M 600	F 682	T 1,282	M 108	F 168	T 276	M 708	F 805	T 1,558
Interest in work activities	70.3%	71.6%	71.0%	59.3%	69.6%	65.6%	68.6%	71.2%	70.0%
Service to others	41.7	76.0	59.9	50.0	75.6	65.6	42.9	75.9	60.9
Work with people	30.7	76.2	54.9	52.8	75.0	66.3	34.0	76.0	56.9
Uses talents/abilities	54.3	57.2	55.9	59.3	49.4	53.3	55.1	55.6	55.4
Security	53.0	55.4	54.3	60.2	50.6	54.3	54.1	54.5	54.3
Initial job opportunities	35.2	48.5	42.3	43.5	50.6	47.8	36.5	48.9	43.3
Opportunity for leadership	34.7	26.1	30.1	37.0	24.4	29.3	35.0	25.8	30.0
Independence	28.3	27.3	27.8	37.0	19.0	26.1	29.7	25.6	27.5
Desire to contribute to knowledge	27.2	24.6	25.9	27.8	20.2	23.2	27.3	23.8	25.4
Opportunity to get ahead rapidly	25.9	14.7	19.9	31.5	11.9	19.6	26.8	14.1	19.9
High income	21.7	17.6	19.5	28.7	15.5	20.7	22.7	17.2	19.7
Ed. requires less time	8.3	14.1	11.4	5.6	14.9	11.3	7.9	14.3	11.4
Status, prestige	11.6	9.1	10.3	16.7	10.7	13.0	12.4	9.4	10.8
Interest in travel	12.0	8.8	10.3	12.0	8.9	10.1	12.0	8.8	10.3
Allows free time	11.0	9.4	10.1	13.9	4.8	8.3	11.4	8.5	9.8

Table 27 represents the factors rated as very important to the graduates in making career choices, by sex of respondent and type of institution. Males appeared to be more concerned than females about factors involving leadership opportunity, the opportunity to get ahead rapidly, high income and travel. Females were more concerned than males about being of service to others, the opportunity to work with people instead of things, the initial job opportunities, and less education required for entrance to the occupation than to others. Differences in the responses of males and females for the remaining factors did not reach the 0.01 level of significance.

Two factors, those of service to others and the opportunity to work with people rather than things were significantly more important to the respondents from the independent institutions than to those from the public.

TABLE 28: TIME AT WHICH CAREER CHOICE WAS MADE

Question 25: When did you make your present choice of career?

	Public			Independent			All		
Time	M 584	F 668	T 1,252	M 108	F 165	T 273	M 692	F 833	T 1,525
Still undecided	7.2%	0.3%	3.5%	5.6%	1.8%	3.3%	6.9%	0.6%	3.5%
Second year	24.3	20.1	22.0	31.5	18.2	23.4	25.4	19.7	22.3
First year	31.8	24.9	28.1	20.4	18.2	19.0	30.1	23.5	26.5
During or before high school	36.6	54.8	46.3	42.6	61.8	54.2	37.6	56.2	47.7

Nearly half of the graduates reported having made their career choice during or before high school, including 54 percent of those from the independent institutions and 46 percent from the public. Twenty-seven percent had made their career decision in their first year of college, and 22 percent had decided while in the second year of their program. Seven percent of the males and 0.6 percent of the females were still undecided concerning the choice of a career.

* * * * *

TABLE 29: CAREER CHOICE CHANGES SINCE ENTERING COLLEGE

Question 26: Have you changed your career choice since entering college?

	Public			Independent			All		
Changed	M 594	F 676	T 1,270	M 106	F 166	T 272	M 700	F 842	T 1,542
Yes	33.3%	22.8%	27.7%	35.8%	19.9%	26.1%	33.7%	22.2%	27.4%
No	66.7	77.2	72.3	64.2	80.1	73.9	66.3	77.8	72.6

The data of Table 29 indicate that twenty-seven percent of the graduates reported that they had changed their career choice since entering college. Significantly more males than females had made career choice changes (34 percent and 22 percent respectively).

* * * * *

TABLE 30: PRIMARY REASONS FOR CHANGING CAREER CHOICE

Question 27: If you have changed your career choice since entering college, why did you do so?

Reasons	Public			Independent			All		
	M 196	F 154	T 350	M 38	F 34	T 72	M 234	F 188	T 422
Few job openings in previous choice	7.1%	9.1%	8.0%	7.9%	8.8%	8.3%	7.3%	9.0%	8.1%
Better financial future	7.1	7.8	7.4	10.5	8.8	9.7	7.7	8.0	7.8
Better use of education	2.0	6.5	4.0	2.6	5.9	4.2	2.1	6.4	4.0
Better suits talents & aptitudes	21.4	20.8	21.1	28.9	20.6	25.0	22.6	20.7	21.8
Better suits interests	18.4	23.4	20.6	10.5	23.5	16.7	17.1	23.4	19.9
Previous choice only tentative	11.2	11.7	11.4	10.5	2.9	6.9	11.1	10.1	10.7
Training for previous choice too costly	8.2	1.3	5.1	0.0	8.8	4.2	6.8	2.7	5.0
Lost interest in previous choice	11.2	6.5	9.1	10.5	5.9	8.3	11.1	6.4	9.0
Other	13.3	13.0	13.1	18.4	14.7	16.7	14.1	13.3	13.7

Table 30 represents the primary reason indicated by the graduates who had made career choice changes for making those changes. Twenty-two percent indicated that they had changed because the new choice better suited their talents and aptitudes, and twenty percent felt the new choice better suited their interests. Only eight percent indicated that their primary reason for making a change in career choice was a dearth of job openings in the initial choice.

* * * * *

TABLE 31: IMPORTANCE OF SOURCES OF INFORMATION IN MAKING CAREER CHOICES

Questions 43-51: How influential has each of the following sources of information or guidance been to you in making your long-term career choice?

Sources of Information	Very Important n	Very Important %	Somewhat Important n	Somewhat Important %	Not Important n	Not Important %
Parents or relatives	227	17.8	675	43.3	608	39.0
Friends	144	9.2	576	36.9	839	53.8
High school teachers or counselors	137	8.8	397	25.4	1,026	65.8
College courses	440	28.3	649	41.7	467	30.0
College teachers	324	20.8	553	35.5	679	43.6
College career or placement counselors	103	6.6	318	20.5	1,134	72.9
Other college counselors	68	4.4	283	18.2	1,205	77.4
Printed materials, radio, or TV	128	8.2	488	31.3	942	60.5
Previous work experience	559	35.9	447	28.7	550	35.3

Table 31 indicates the relative importance of a number of sources of information to the graduates in making their career choices. The most important source of information appeared to be their previous work experience, with college courses, college teachers, and the influence of parents or relatives also of major importance. More than half of the graduates responded that the influences of college career or placement counselors, other counselors, high school teachers or counselors, printed materials - radio - TV, and friends had not been important as sources of information in making a career decision.

* * * * *

TABLE 32: OCCUPATIONAL OR CAREER COUNSELING RECEIVED

Question 52: Did you receive occupational or career counseling while attending college?

	Public			Independent			All		
Counseling Received	M 594	F 676	T 1,270	M 107	F 166	T 273	M 701	F 842	T 1,543
Yes	35.7%	35.5%	35.6%	32.7%	32.5%	32.6%	35.2%	34.9%	35.1%
No	64.3	64.5	64.4	67.3	67.5	67.4	64.8	65.1	64.9

Approximately one third of the respondents had received occupational or career counseling while in college. This was fairly constant for both males and females, and for respondents from public and independent institutions.

* * * * *

TABLE 33: HELPFULNESS OF OCCUPATIONAL OR CAREER COUNSELING

Question 53: How helpful was occupational or career counseling received while in college?

	Public			Independent			All		
Degree of Helpfulness	M 212	F 240	T 452	M 35	F 54	T 89	M 247	F 294	T 541
Very helpful	24.5%	29.2%	27.0%	17.1%	31.5%	25.8%	23.5%	29.6%	26.8%
Somewhat helpful	62.3	55.0	58.4	65.7	50.0	56.2	62.8	54.1	58.0
Not helpful	13.2	15.8	14.6	17.1	18.5	18.0	13.8	16.3	15.2

Table 33 represents the evaluation of the career or placement counseling received by those who had experienced such counseling. Eighty-five percent thought that the counseling had been helpful, with 27 percent of them indicating that it had been very helpful.

* * * * *

TABLE 34: EXPECTED CAREER RESIDENCE

Question 61: Where do you expect to be living when you begin your career?

	Public			Independent			All		
Place of Residence	M 596	F 678	T 1,274	M 107	F 166	T 273	M 703	F 844	T 1,547
Within Indiana	62.1%	81.7%	72.5%	69.2%	77.7%	74.4%	63.2%	80.9%	72.9%
Outside Ind. but within U.S.A.	36.2	17.7	26.4	29.9	22.3	25.3	35.3	18.6	26.2
Outside U.S.A.	1.7	0.6	1.1	0.9	0.0	0.4	1.6	0.5	1.0

Table 34 indicates that seventy-three percent of the respondents, including 81 percent of the females and 63 percent of the males, expected to live within Indiana while engaged in their career jobs. The graduates from public institutions did not differ significantly with those from the independent in this regard.

* * * * *

TABLE 35: EXPECTED CAREER RESIDENCE BY HIGH SCHOOL LOCATION

Questions 4 & 61:

Career Residence		Public High School Location			Independent High School Location			All High School Location		
		Within Indiana	Outside Indiana	Outside U.S.A.	Within Indiana	Outside Indiana	Outside U.S.A.	Within Indiana	Outside Indiana	Outside U.S.A.
Within Indiana	n	848	72	6	181	20	2	1,029	92	8
	%	76.3	50.0	33.3	82.3	39.2	100.0	77.3	47.2	40.0
Outside Indiana but within U.S.A.	n	254	70	10	39	30	0	293	100	10
	%	22.8	48.6	55.6	17.7	58.8	0.0	22.0	51.3	50.0
Outside U.S.A.	n	10	2	2	0	1	0	10	3	2
	%	0.9	1.4	11.1	0.0	2.0	0.0	0.8	1.5	10.0
Total	n	1,112	144	18	220	51	2	1,332	195	20
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 35 compares high school residence with expected career residence by type of institution attended in order to provide a measure of out-migration from Indiana colleges and universities. A total of 1,332 respondents had come from high schools within Indiana and a total of 1,129 expected to pursue careers in in the state, a net loss of 203 graduates. However, it is likely that some or all of this deficit is made up by out-of-state associate level graduates who come to Indiana to pursue their careers.

* * * * *

PART VI

ASSOCIATE DEGREE-LEVEL MANPOWER PRODUCED IN INDIANA 1974-1975

The data of this report have been collected and analyzed toward the ultimate goal of estimating associate degree-level manpower supply in Indiana. A number of intervening variables make the attempt to ascertain precisely college-level manpower supply on a statewide basis a quixotic effort. For that reason, the extrapolations presented in this section of this report should be viewed as rough estimates.

One intervening variable involves the time or stage in individuals' career development with which one is concerned. As has been shown in this report, degree recipients do not necessarily plan to pursue a single occupation indefinitely. The occupation in which they expect to be employed immediately after receiving an associate degree may be very different from that to which they aspire five or ten years hence. The analysis presented in Part VI concerns the long-term career aspirations of Indiana's 1974-75 associate degree recipients, realizing that long-term career fields are entered at different times by different individuals, and that some people pursue multiple careers.

Mobility is another variable which affects the accuracy of statewide manpower supply estimates. It was reported in Table 34 that 73 percent of the respondents expected to pursue careers in Indiana. In Table 35 it was noted that there were more associate degree recipients who had graduated from Indiana high schools than planned to pursue careers in the state. However, this apparent out-migration may well be offset by degree recipients of institutions in other states who come to Indiana to pursue careers.

National trends and developments can strongly affect statewide manpower supply and demand figures. Trained manpower shortages in one part of the nation may be surpluses in another. Degree recipients may be willing to relocate if this action means that they will be able to find a desired form of employment, so interpretation of statewide college-level manpower supply should often be viewed in a nationwide context.

It should also be kept in mind that, for many occupations, the educational or training preferences of employers determine opportunities for the employment of college graduates. For this reason, a variety of educational backgrounds may be avenues to a specific type of employment. In other words, the manpower supply data of this report relate only to associate degree recipients and do not constitute all of the state's manpower supply to any occupation.

TABLE 36: ASSOCIATE DEGREE-LEVEL MANPOWER PRODUCED IN INDIANA
1974-75

Questions 21 and 61:

Career Choice	All Graduates (Extrapolation)	Career Expected in Indiana (Extrapolation)	Percent Expecting Career in Indiana (Col.2 ÷ Col.1)
Professional, Technical, Kindred	3,027	2,137	70.6%
Engineers	192	120	62.5
Life scientists	18	11	61.1
Physical scientists	0	0	--
Math specialists	0	0	--
Medical workers	1,086	906	83.4
Dentists	0	0	--
Optometrists	0	0	--
Pharmacists	6	6	100.0
Physicians/surgeons	13	5	38.5
RNs	1,006	854	84.9
Therapists	46	34	73.9
Veterinarians	0	0	--
Other medical	15	7	46.7
Technicians - health	185	142	76.8
Clinical/med. lab technicians	27	19	70.4
Dental hygienists/lab technicians	103	83	80.6
LPNs	0	0	--
Therapy technicians	14	14	100.0
Other health technicians	41	26	63.4
Technicians-science & engineering	275	161	58.5
Science technicians	37	12	32.4
Engineering technicians	238	149	62.6
Technicians - other	215	79	36.7
Aviation technicians	112	18	16.1
Other technicians nec	103	61	59.2
Computer specialists	157	125	79.6
Psychologists	50	32	64.0
Social scientists	17	5	29.4
Education professions	269	178	66.2
Elementary & pre-school teachers	43	41	95.3
Secondary school teachers	70	55	78.6
College teachers	74	45	60.8
Special ed. professions	27	11	40.7
School counselors	0	0	--
Other education professions	55	26	47.3
Writers, artists, entertainers	141	82	58.2
Writers & kindred	23	20	87.0
Artists & entertainers	118	62	52.5
Other professional,technical, kindred	422	296	70.1
Accountants & auditors	217	179	82.5
Architects	53	18	34.0
Clergy and kindred	3	3	100.0
Lawyers and judges	43	14	32.6
Librarians, curators, archivists	15	12	80.0
Social workers	47	41	87.2
Other	44	29	65.9
Managers, Officials, and Proprietors	393	263	66.9
Buyers, sales, loan managers	109	74	67.9
Bank and financial managers	22	16	72.7
Buyers	33	12	36.4
Sales managers	54	46	85.2
Administrators & public inspectors	64	48	75.0
Health administrators	19	14	73.7
School administrators	2	0	0.0
Other administrators	43	34	79.1
Inspectors, public	0	0	--
Other managers, officials, proprietors	220	141	64.1
Office managers, nec	109	80	73.4
Other managers and administrators	111	61	55.0

Table 36 (continued)

Career Choice	All Graduates (Extrapolation)	Career Expected in Indiana (Extrapolation)	Percent Expecting Career in Indiana (Col.2 ÷ Col.1)
Sales Workers	61	52	85.2
Clerical Workers	224	175	78.1
Secretaries, stenographers, typists	186	147	78.6
Other clerical workers	38	28	73.7
Craftsmen, Foremen and Kindred	228	165	72.4
Foremen	30	30	100.0
Automotive workers	87	57	65.5
Other craftsmen, foremen and kindred	111	78	70.3
Operatives	6	6	100.0
Service Workers	134	103	76.9
Protective service workers	107	81	75.7
Other service workers	27	22	81.5
Laborers (non-farm)	6	6	100.0
Farmers & Farm Workers	9	9	100.0
Other	20	10	50.0
Military	6	0	0.0
Housewife	14	10	71.4
Total	4,108	2,926	71.2

Table 36 represents the career plans of the respondents, extrapolated* to represent all of the 1974-75 associate degree recipients in the participating Indiana institutions. These extrapolations represent virtually all of the 1974-75 associate degrees granted by the public and independent institutions in the state. Because of the importance of the mobility of college graduates in assessing manpower supply, a separate extrapolation is reported for those respondents who expected to pursue careers in Indiana.

Of the 4,108 associate degree recipients represented by the survey sample, it would be anticipated that 2,926 or 71 percent expected to pursue careers in Indiana. Though the proportion expecting to remain in the state varied from occupation to occupation, in most cases it appeared that a majority of graduates hoped to pursue a career in Indiana.

* The total numbers of associate degrees conferred by participating institutions were taken from 1974-75 HEGIS institutional reports of degrees granted. Totals of associate degrees conferred were calculated for public institutions and independent institutions, by sex. These four totals were then divided by the number of usable survey responses for each sex and from each sector, resulting in the following coefficients of expansion:

Public (males) = 5.98
Public (females) = 4.73
Independent (males) = 2.80
Independent (females) = 2.45

These extrapolations indicate that, in 1974-75, Indiana's colleges and universities produced 3,027 associate degree recipients who aspired to careers in the professional, technical, and kindred occupational category. Over 1,000 of these hoped to be employed as registered nurses. The remaining aspirants to this occupational category were widely distributed between technical, health, educational, and business occupations.

An additional 393 degree recipients aspired to careers in the managers, officials, and proprietors occupational category. Occupations in the category of clerical workers were chosen by 224 graduates, most of whom hoped to be secretaries or stenographers. An additional 228 individuals hoped to pursue careers in the craftsmen, foremen, and kindred category, and 134 aspired to careers as service workers, primarily in protective service occupations (e.g. policemen, firemen, and watchmen, etc.). The combined number of graduates aspiring to careers in the categories of sales, operatives, laborers, and farmers/farm workers was less than one hundred.

APPENDIX A

METHODOLOGY

The Problem

What are the educational, occupational, and career plans and aspirations of associate degree recipients in the public and independent colleges and universities of Indiana?*

Development of the Instrument

A 61 item questionnaire (Appendix B), the "Occupation and Career Interest Survey" was developed. The questionnaire was designed to assess the educational, occupational, and career plans and aspirations of college students who would graduate with associate or baccalaureate degrees within a short period of time. Permission was obtained to use or adapt a number of questions from the "College Senior Survey" of the Educational Testing Service and the "Indiana High School Senior Survey", developed by Dr. J. P. Lisack of Purdue University.

Two detailed lists accompanied each questionnaire. The first dealt with degree programs and major fields of study, and was based upon the HEGIS Taxonomy for programs currently available in Indiana. The second list concerned occupation and career titles and groupings, and was based upon the occupational listings of the Bureau of the Census.

At the initiation of the Indiana College-Level Manpower Study, the presidents of all of Indiana's institutions from whom participation was requested designated contact persons for the study. A draft of the questionnaire was sent to the contact persons for criticism and suggested changes, and was revised accordingly. The revised instrument was then pretested with the graduating class at Franklin College. Analysis of the responses to each item and students' comments concerning the instrument led to further minor revisions of the questionnaire to its final form.

The Sample

The contact persons were asked to provide lists of students who would be graduating in the spring of 1975 with associate degrees. Fifty percent of those graduating from public institutions were chosen by a random selection process and received the survey instrument. One hundred percent of the independent schools' graduates were sent the questionnaire.

Questionnaire Distribution

Questionnaire distribution was conducted primarily by two methods. For

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*Bachelor's degree recipients have also been studied. The results of that study were reported in a separate publication, Educational Plans and Career Choices of Bachelor's Degree Recipients in Indiana.

students living off-campus, first-class mail was used. For institutions with large numbers of students living in residence halls, campus mailings were prepared and distributed with the help of the contact person. At one institution the questionnaire was given to the selected students as part of a graduation check-out procedure. Answer sheets were returned directly to the Commission in preaddressed, postage paid envelopes.

Follow-Up Mailing

Because contact persons, in most cases, were unable to provide lists of graduates more than a few weeks prior to final examinations and graduation, only one mailing to the sample members from each institution was feasible. For Indiana Vocational Technical College and Anderson College time permitted a follow-up mailing. The responses to the second mailing were then compared with those of the first and were not found to be significantly different.*

Analysis of the Data

Students' responses to the questionnaire were made directly on Optical Scanning answer sheets which were prepared for this study (Appendix B). These responses were converted to computer tape and the Statistical Package for the Social Sciences (SPSS) was used for computation and statistical analysis of responses.

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* At the two institutions where follow-up mailings were conducted an analysis of the differences between first-mailing respondents and follow-up respondents was made on 53 questionnaire items by means of the chi-square test of independence. Differences at or beyond the 0.05 level of significance were found in less than one percent of the cases.

Because responses to the second mailing at these two institutions did not appear to differ significantly from those to the initial mailing, it can be concluded that at the other institutions many non-respondents were similar to the respondents and that the data presented in this study are representative of more than the 47 percent of the sample who were included in the returns.

APPENDIX B

OCCUPATION AND CAREER INTEREST SURVEY

STATE OF INDIANA
COMMISSION FOR HIGHER EDUCATION
143 WEST MARKET STREET
INDIANAPOLIS, INDIANA 46204

Dear Graduating Student:

As your graduation approaches, you are called upon to make some important decisions concerning next year and your entire future. Will you continue your formal education, seek employment, or choose some other way of pursuing your life's goals?

The Indiana Commission for Higher Education is a state agency responsible for the coordination of public postsecondary institutions in the state, and is charged to take the private institutions' resources into account in its planning. In order to perform better its duties in these areas, the Commission is undertaking a major study of college level manpower supply and demand.

The portion of the Commission's manpower study related to this student survey is primarily an examination of factors influencing students' academic and career choices, and the relationships between these choices. The information gained from this study coupled with other portions of the overall manpower study will be of great value to the Commission and participating institutions in career counseling, and in developing academic programs to meet the needs of students.

Student input into this study is crucial to its success, so please take a few minutes to complete and return this questionnaire. A self-addressed envelope is enclosed for your convenience.

Sincerely,

Robert Greenberg

Robert Greenberg
Project Director — Manpower

OCCUPATION AND CAREER INTEREST SURVEY

The Occupation and Career Interest Survey is part of the College-Level Manpower Study of the Indiana Commission for Higher Education. The Survey will provide information whereby we can better identify relationships between the occupations desired by college graduates and the types of degrees they receive. Such information should be useful to the Commission in its planning function, to colleges and universities as they develop academic programs, and to students themselves as they engage in the process of relating their educations to their anticipated careers.

Would you please complete the enclosed questionnaire by marking your responses on the separate answer sheet and return the answer sheet in the stamped, self-addressed envelope at your earliest convenience. If you do not expect to complete the requirements for an associate or bachelor's degree during the spring or summer of 1975, please return the answer sheet unmarked.

All individual responses to this questionnaire will be confidential. Results will be reported only for groups of students.

PLEASE MARK RESPONSES TO ALL QUESTIONS ON THE ENCLOSED ANSWER SHEET IN NUMBER 2 LEAD PENCIL.

1. What is your sex?
   (a) male
   (b) female

2. How old will you be on July 1 of this year?
   (a) 17 or younger
   (b) 18 or 19
   (c) 20 or 21
   (d) 22 or 23
   (e) 24 to 29
   (f) 30 or older

3. What is your current marital status?
   (a) not married
   (b) married

4. Where did you live when you last attended high school?
   (a) within Indiana
   (b) Outside Indiana but within the United States or its possessions
   (c) in a foreign country

5. Since completing your high school studies have you ever interrupted your formal education for an extended period of time (semester, quarter, term or longer) other than a summer break?
   (a) yes
   (b) no

6. What is your approximate overall average grade in college?
   (a) A— to A+
   (b) B— to B+
   (c) C— to C+
   (d) lower than C—

7. What is your approximate average grade in your major field of study?
   (a) A— to A+
   (b) B— to B+
   (c) C— to C+
   (d) lower than C—

Use List A, "Degree Programs and Major Fields of Study" to answer the following three questions. Please enter the appropriate code numbers and fill in the corresponding spaces on the answer sheet.

8. What was your earliest declared degree program or major field of study?

9. What is your current degree program or major field of study?

10. If you plan to attain a higher degree, what will be your future field of study?

How important has each of the following been to you in the selection of your present degree program or major field of study? Please fill in **one** space for each potential influence.

	NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
11.	(n)	(s)	(v)	The status or prestige of my major field.
12.	(n)	(s)	(v)	The influence of parents, relatives, or friends.
13.	(n)	(s)	(v)	The relationship between my major field of study and my talents and aptitudes.
14.	(n)	(s)	(v)	The relationship between my major field of study and my interests.
15.	(n)	(s)	(v)	The relationship between my major field of study and my career choice.

The Occupation and Career Interest Survey is being conducted by the Indiana Commission for Higher Education in cooperation with the colleges and universities of the State of Indiana. We would like to thank the Educational Testing Service for their permission to use a number of questions developed for their College Senior Survey, and Dr. J. P. Lisack for his permission to use questions from his Indiana High School Senior Survey.

16. What is the highest level of education you expect to complete?
    (a) Associate degree or equivalent
    (b) Bachelor's degree
    (c) First-professional degree (D.D.S. or D.M.D., LL.B. or J.D., M.D., B.D., D.V.M., D.S.C. or D.P.S.)
    (d) Master's degree
    (e) Specialist's degree (Ed.S., etc., **not** a first-professional degree)
    (f) Doctor's degree (Ph.D., Ed.D., etc., **not** a first-professional degree)

Use the following choices to answer questions 17 and 18:

(a) Less than high school graduation
(b) Received a high school diploma or G.E.D.
(c) Received an associate degree or equivalent
(d) Received a bachelor's degree
(e) Received a first-professional degree
(f) Received a master's degree
(g) Received a specialist's degree
(h) Received a doctor's degree

17. What is the highest educational level completed by your father?

18. What is the highest educational level completed by your mother?

Use List B, "Occupational/Career Categories" to answer **each** of the following five questions. Please enter the appropriate code numbers and fill in the corresponding spaces on the answer sheet.

19. What is (was) your father's primary occupation?

20. What is (was) your mother's primary occupation?

21. What is your long-term career choice?

22. In which occupation do you expect to be working next fall?

23. In which occupation do you expect to be working five years from now?

24. To what extent do you expect your long-term career to be related to your undergraduate major field of study?
    (a) Highly related
    (b) Somewhat related
    (c) Unrelated

25. When did you make your present choice of career?
    (a) I am presently undecided.
    (b) During my 4th or senior year in college.
    (c) During my 3rd or junior year in college.
    (d) During my 2nd or sophomore year in college.
    (e) During my 1st or freshman year in college.
    (f) During or before high school.

26. Have you changed your career choice since entering college?
    (a) Yes
    (b) No (If no, go to question 28)

27. If you have changed your career choice since entering college, why did you do so? Mark ONLY the **one** most important reason for your most recent change.
    (a) Previous choice seems to have few job openings.
    (b) Present choice offers a better financial future.
    (c) Present choice makes better use of my education.
    (d) Present choice better suits my talents and aptitudes.
    (e) Present choice better suits my interests.
    (f) Previous choice was only tentative, until I decided my actual field of interest.
    (g) Training for my previous choice would cost too much.
    (h) Lost interest in my previous choice.
    (i) Other.

How important has each of the following been to you in your choice of a long-term career? Darken **one space** for each factor.

	NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
28.	(n)	(s)	(v)	High income.
29.	(n)	(s)	(v)	Independence (extent to which you can work alone)
30.	(n)	(s)	(v)	Being of service to others.
31.	(n)	(s)	(v)	Security.
32.	(n)	(s)	(v)	Opportunity for leadership.
33.	(n)	(s)	(v)	Interest in work activities.
34.	(n)	(s)	(v)	Allows more free time than other fields.
35.	(n)	(s)	(v)	Makes use of my special talents and abilities.
36.	(n)	(s)	(v)	Interest in working with people rather than with things.
37.	(n)	(s	(v)	Education needed for entrance to the career takes less time than for entrance to other careers.
38.	(n)	(s)	(v)	Interest in travel.
39.	(n)	(s)	(v)	Status, prestige.
40.	(n)	(s)	(v)	Opportunity to get ahead rapidly.
41.	(n)	(s)	(v)	Desire to make a contribution to knowledge.
42.	(n)	(s)	(v)	Initial job opportunities.

How influential has each of the following sources of information or guidance been to you in making your long-term career choice? Please fill in **one** space for each potential source.

	NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
43.	(n)	(s)	(v)	Parents or other relatives.
44.	(n)	(s)	(v)	Friends.
45.	(n)	(s)	(v)	High school teachers or counselors.
46.	(n)	(s)	(v)	College courses.
47.	(n)	(s)	(v)	College teachers.
48.	(n)	(s)	(v)	College career or placement counselors.
49.	(n)	(s)	(v)	Other counselors.
50.	(n)	(s)	(v)	Printed materials, radio, or TV.
51.	(n)	(s)	(v)	Previous work experience.

52. Did you receive occupational or career counseling while attending college? Indicate as many as are appropriate.

(a) No (If no, go to question 54).
(b) Yes, during my 1st or freshman year.
(c) Yes, during my 2nd or sophomore year.
(d) Yes, during my 3rd or junior year.
(e) Yes, during my 4th or senior year.

53. If you answered yes to the previous question, how helpful was the counseling?

(a) Very helpful.
(b) Somewhat helpful.
(c) Not helpful.

For questions 54-56, select the best response for each question from the five-item list below. Fill in **only one** response for each time period.

(a) Working full time at a job which I expect to make my career.
(b) Working full time at a job which will probably not be my career.
(c) Military service.
(d) Graduate or professional study.
(e) Not in the work force.

54. Which **one** of the five choices above best describes what you expect to be your primary activity this fall?

55. Which **one** of the five choices above best describes what you expect to be your primary activity about five years from now?

56. Which **one** of the five choices above best describes what you expect to be your primary activity about ten years from now?

How definite do you consider the expectations marked in your last three responses?

	VERY DEFINITE	SOMEWHAT DEFINITE	HIGHLY INDEFINITE	
57.	(v)	(s)	(h)	This fall.
58.	(v)	(s)	(h)	Approximately five years from now.
59.	(v)	(s)	(h)	Approximately ten years from now.

60. In which of the following work environments do you hope to make your long-term career? (Indicate only one.)

(a) Self employment or private practice.
(b) Business or industrial firm.
(c) Educational institution.
(d) Private research organization.
(e) Welfare agency.
(f) Military service.
(g) Government or public service (not educational, welfare, or military).
(h) Health care facility.
(i) Other

61. Where do expect to be living when you begin your career?

(a) Within Indiana.
(b) Outside Indiana, but within the United States or its possessions.
(c) In a foreign country.

Thank you very much for completing this questionnaire. Would you please return it to us in the enclosed, stamped, self-addressed envelope at your earliest convenience. If you have misplaced the envelope, send the answer sheet to:

OCCUPATION AND CAREER INTEREST SURVEY
The Indiana Commission for Higher Education
143 West Market Street
Indianapolis, Indiana 46204

OCCUPATION AND CAREER INTEREST SURVEY

LIST "A"

DEGREE PROGRAMS AND MAJOR FIELDS OF STUDY

Please use this list when you answer questions 8 through 10 in your questionnaire. Review this list carefully, find the degree program or major field of study you are looking for, and enter the corresponding two digit code number in the spaces provided on the answer sheet.

ASSOCIATE DEGREE PROGRAMS
(2 years of college)

Code	FIELD OF STUDY
	Business and Commerce Technologies
01	Business and Commerce Technologies, General
02	Accounting
03	Banking and Finance
04	Marketing, Distribution, and Purchasing
05	Secretarial Technologies
06	Other Business and Commerce Technologies
	Health Service and Paramedical Tech.
11	Dental Health Technologies
12	Medical Laboratory Technologies
13	Nursing
14	Medical Therapy Technologies
15	Other Allied Health
	Mechanical and Engineering Tech.
21	Aeronautical and Aviation Technologies
22	Graphics and Drafting Technologies
23	Automotive Technologies
24	Electronics and Machine Technologies
25	Other Mechanical and Engineering Technologies
	Miscellaneous Associate Degree Programs
31	Data Processing Technologies
32	Natural Science Technologies
33	Public Service Related Technologies
34	Other Associate Degree Programs

BACHELOR OR HIGHER DEGREE PROGRAMS
(4 years college or more)

Code	FIELD OF STUDY
41	Agriculture, Natural Resources, and Forestry
42	Architecture, Environmental Design, and Urban and Regional Planning
43	Area Studies
44	Biological Sciences
45	Business and Management
46	Communications (includes Journalism)
47	Computer and Information Sciences
48	Engineering
49	Fine and Applied Arts
50	Foreign Languages
51	Home Economics
52	Interdisciplinary Studies
53	Law and Pre-Law
54	Letters (includes English, Folklore, Linguistics, Literature, Speech, Philosophy, and Religion)
55	Library Science
56	Mathematics and Statistics
57	Physical Sciences
58	Psychology
59	Public Affairs and Services (includes Forensic Studies, Public Administration, Parks and Recreation, Social Work, etc.)
	Education Fields
61	Elem. and Pre-Elementary Education
62	Secondary Education
63	Special Education
64	Health and Physical Education
65	Educational Administration
66	Counseling and Guidance
67	Other Education Fields
	Health Fields
71	Allied Health
72	Dentistry
73	Nursing
74	Optometry
75	Pharmacy
76	Physician
77	Therapy, Occupational and Physical
78	Veterinary
79	Other Health Fields
	Social Sciences [not psychology]
81	Economics
82	History
83	Political Science and Government
84	Sociology
85	Other Social Sciences (Anthropology, Archaeology, Geography, International Relations, etc.)
99	Double Major

Please do not return these lists with your answer sheet. You are welcome to keep them for your own use.

LIST "B"

OCCUPATIONAL/CAREER CATEGORIES

Please use this list when you answer questions 19 through 23 in your questionnaire. Review the entire list before you select the category that most accurately identifies your response to each of the questions, then enter the corresponding two digit code number in the spaces provided on the answer sheet.

PROFESSIONAL, TECHNICAL AND KINDRED

Code	CATEGORY
01	***Engineers***
02	***Life Scientists*** (Agricultural, Biological, Marine, etc.)
03	***Physical Scientists*** (Astronomer, Atmospheric and Space, Chemist, Geologist, Physicist, etc.)
04	***Mathematical Specialists*** (Actuary, Mathematician, Statistician, etc.)
	Medical Workers
05	Dentists
06	Optometrists
07	Pharmacists
08	Physicians and Surgeons
09	Registered Nurses
10	Therapists (Occupational, Physical, Respiratory, Speech, etc.)
11	Veterinarians
12	Other Medical Workers (Chiropractor, Dietician, Sanitarian, etc.)
	Technicians — Health [for assistants, see Service Workers: Health Service Workers]
13	Clinical or Medical Lab Technicians
14	Dental Hygienists and Dental Lab Tech.
15	Licensed Practical Nurses
16	Therapy Technicians
17	Other Health Technicians (Health Records Technician, Radiologic Tech., etc.)
	Technicians — Science and Engineering
18	Science Technicians (Agricultural, Biological, Chemical, Mathematical, etc.)
19	Engineering Technicians (includes draftsman)

Code	CATEGORY
	Technicians — Other
20	Aviation Technicians (Airplane Pilot, Air Traffic Controller, Flight Engineer, etc.)
21	Other Technicians not elsewhere classified
22	***Computer Specialists*** (Programmer, Systems Analyst, etc.)
23	***Psychologists*** (not a teacher)
24	***Social Scientists*** (Economist, Historian, Political Scientist, Sociologist, Urban and Regional Planner, etc. — not a teacher)
	Education Professions
25	Elementary and Pre-School Teachers
26	Secondary School Teachers
27	College Teachers
28	Special Education Professions
29	School Counselors
30	Other Education Professions
	Writers, Artists, Entertainers
31	Writers and Kindred (Author, Editor, Reporter, etc.)
32	Artists and Entertainers (Announcer, Artist, Athlete, Composer, Designer, Performer, Photographer, etc.)
	Other Professional Technical and Kindred
33	Accountants and Auditors
34	Architects
35	Clergymen and Kindred
36	Lawyers and Judges
37	Librarians, Curators, Archivists, etc.
38	Social Workers
39	Others (Personnel and Labor Relations, Recreation Worker, Research Worker, etc.)

[continued]

MANAGERS, OFFICIALS AND PROPRIETORS

Code	CATEGORY
	Buyers, Sales, Loan Managers
40	Bank and Financial Managers
41	Buyers (Wholesale, Retail, Shipper, Farm Produce, Purchasing Agent, etc.)
42	Sales Managers (Wholesale and Retail Trade)
	Administrators and Public Inspectors
43	Health Administrators
44	School Administrators (Elementary, Secondary and College)
45	Other Administrators (Local, Public, Postmaster, Mail Supervisor, etc.)
46	Inspectors, Public
	Other Managers, Officials and Proprietors
47	Office Managers, not elsewhere classified
48	Other Managers and Administrators (Funeral Director; Hotel, Motel, Restaurant, or Bar Manager; Superintendant and Building Manager; etc.)

SALES WORKERS

Code	CATEGORY
49	***Insurance Agents, Brokers, etc.***
50	***Real Estate Agents, Brokers, etc.***
51	***Stock and Bond Salespeople***
52	***Sales Clerks — Retail Trade***
53	***Other Sales Personnel*** (Wholesale and Retail Trade, Manufacturing Representative, Service and Construction, etc.)

CLERICAL WORKERS

Code	CATEGORY
	Secretaries, Stenographers, and Typists
54	Secretaries and Stenographers (Personal, Legal, Medical, etc.)
55	Typists
	Office Machine Operators
56	Keypunch and Computer Equipment Operators
57	Others (Bookkeeping and Billing Machine, Calculating, Duplicating, etc.)
	Other Clerical Workers
58	Bookkeepers
59	Cashiers
60	Other Clerical Workers (Bank Teller, Clerk, Receptionist, Telephone Operator, etc.)

CRAFTSMEN, FOREMEN AND KINDRED

Code	CATEGORY
	Construction Craftsmen
61	Construction Machinery Operators (Bulldozer, Excavating and Grading Machine, etc.)
62	Electricians
63	Other Construction Craftsmen
64	***Metalworking Craftsmen*** (Not mechanics)
65	***Foremen, not elsewhere classified***
	Mechanics, Repairmen, and Installers
66	Airconditioning, Heating, Refrigeration Workers
67	Automotive Workers (Accessories Installer, Body Repairman, Mechanic, etc.)
68	Heavy Equipment and Diesel Mechanics
69	Other Mechanics and Repairmen
70	***Printing Trade Craftsmen***
71	***Transportation and Public Utilities Craftsmen***
72	***Other Craftsmen and Kindred Workers*** (Baker, Cabinetmaker, Jeweler, Miller, Optician, Stone Cutter, Tailor, Upholsterer, Window Dresser, etc.)

[*continued*]

OPERATIVES

Code	CATEGORY
	Operatives other than Transportation Equipment
73	Semiskilled Metalworking Operatives (Drill Press, Lathe, Welder, etc.)
74	Semiskilled Textile Workers (Knitter, Spinner, Weaver, etc.)
75	Semiskilled Packing and Inspecting Workers
76	Other Operatives (Assembler and Production Worker, Bottling and Canning Worker, Dressmaker, Garage Worker and Gas Station Attendant, Laundry and Dry Cleaning Operative, Meat Cutter and Butcher, Mine Operative, etc.)
77	***Transport Equipment Operatives*** (Bus and Taxi Driver, Railroad Operative, Truck Driver, etc.)

SERVICE WORKERS

Code	CATEGORY
78	***Cleaning Service Workers — not Private Household*** (Maid, Cleaner, Janitor, etc.)
79	***Food Service Workers — not Private Household*** (Bartender, Cook, Waiter, etc.)
80	***Health Service Workers*** (Dental Assistant, Health Aid, Nurse's Aid, Orderly, etc.)
81	***Personal Service Workers*** (Airline Steward and Stewardess, Barber, Child Care Worker, Hairdresser and Cosmetologist, Welfare Service Aide, etc.)
82	***Protective Service Workers*** (Fireman, Policeman, Watchman, etc.)
83	***Private Household Workers*** (Cook, Housekeeper, Servant, etc.)

LABORERS

Code	CATEGORY
84	***Laborers, not Farm Workers*** (Construction Laborer, Freight Handler, Garbage Collector, Gardener, etc.)

FARMERS AND FARM WORKERS

Code	CATEGORY
85	***Farmers and Farm Managers*** (Manager, Owner, or Tenant)
86	***Farm Laborers and Farm Foremen***

OTHER CATEGORIES

Code	CATEGORY
87	***Military Services***
88	***Housewife***
89	***Student***

OCCUPATION AND CAREER INTEREST SURVEY ANSWER SHEET

If you do not expect to complete requirements for an associate or bachelor's degree during the spring or summer of 1975, please return the answer sheet unmarked in the enclosed, stamped self-addressed envelope.

OFFICE USE ONLY

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

SAMPLE:

Question 1 on survey: 1. What is your sex? ..... a. Male b. Female

RESPONSE ON ANSWER SHEET TO QUESTION 1 ..... 1. ▌ b

USE NO.2 PENCIL

1. a b

2. a b c d e f

3. a b

4. a b c

5. a b c

6. All Courses
   a b c d

7. Major Field
   a b c d

See List A for Two Digit Code for Questions 8-9-10

8. Earliest Major Field of Study

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

9. Current Major Code

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

10. Future Field of Study

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

Questions 11-15 mark your responses as follows:
If Not Important Mark the "n"
If Somewhat Important Mark the "s"
If Very Important Mark the "v"

11. n s v

12. n s v

13. n s v

14. n s v

15. n s v

16. a b c d e f

17. Father's Education Level
    a b c d e f g h

18. Mother's Education Level
    a b c d e f g h

INDIANA COMMISSION FOR HIGHER EDUCATION

See List B for Two Digit Code for Questions 19-20-21-22-23

19. Father's Occupation

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

20. Mother's Occupation

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

21. Career Choice

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

22. Expected Fall Occupation

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

23. Expected 5-Year Occupation

	0	1	2	3	4	5	6	7	8	9
	0	1	2	3	4	5	6	7	8	9

24. a b c

25. a b c d e f

26. a b

27. a b c d e f g h i

Questions 28-42 mark your responses as follows:
If Not Important Mark the "n"
If Somewhat Important Mark the "s"
If Very Important Mark the "v"

28. n s v

29. n s v

30. n s v

31. n s v

32. n s v

33. n s v

34. n s v

35. n s v

36. n s v

37. n s v

38. n s v

39. n s v

40. n s v

41. n s v

42. n s v

Questions 43-51 mark your responses as follows:
If Not Important Mark the "n"
If Somewhat Important Mark the "s"
If Very Important Mark the "v"

43. n s v

44. n s v

45. n s v

46. n s v

47. n s v

48. n s v

49. n s v

50. n s v

51. n s v

52. a b c d e

53. a b c

54. a b c d e

55. a b c d e

56. a b c d e

Questions 57-59 mark your responses as follows:
If Very Definite Mark the "v"
If Somewhat Definite Mark the "s"
If Highly Indefinite Mark the "h"

57. v s h

58. v s h

59. v s h

60. a b c d e f g h i

61. a b c

DC 33-544 ... Optical Scanning Corporation ...

APPENDIX C

LEVEL OF SIGNIFICANCE OF DIFFERENCES IN RESPONSES BY SEX AND TYPE OF INSTITUTION (USING CHI-SQUARE)

Table No.	Question No.	MALE - FEMALE			PUBLIC - INDEPENDENT		
		Chi-square	df	Probability	Chi-square	df	Probability
2	1	--	--	--	5.200	1	.023
3	2	50.754	4	.000	20.597	4	.000
4	3	1.267	1	.260	7.964	1	.005
5	4	0.926	2	.630	13.090	2	.001
6	19	15.153	9	.087	3.753	9	.927
6	20	16.829	9	.052	4.669	9	.862
7	17	18.690	7	.009	6.448	7	.489
8	18	14.481	6	.025	7.440	6	.282
9	5	13.950	1	.000	1.125	1	.289
10	6	2.480	3	.479	8.859	3	.031
10	7	49.656	3	.000	17.102	3	.001
11	8	707.341	12	.000	115.095	12	.000
11	9	731.924	3	.000	115.867	3	.000
12	10	487.223	8	.000	45.569	8	.000
13	16	14.907	5	.011	20.209	5	.001
14	54	96.425	4	.000	7.671	4	.104
14	55	68.377	4	.000	6.271	4	.180
14	56	111.801	4	.000	5.949	4	.203
16	57	29.464	2	.000	1.533	2	.465
16	58	29.503	2	.000	4.010	2	.135
16	59	59.450	2	.000	4.944	2	.084
18	21	269.557	10	.000	34.655	10	.000
18	22	423.788	11	.000	48.061	11	.000
18	23	305.956	11	.000	33.887	11	.001
20	24	58.537	2	.000	5.245	2	.073
25	60	481.801	8	.000	16.084	8	.041
26	28	18.710	2	.000	0.905	2	.636
26	29	7.437	2	.024	0.755	2	.686
26	30	184.116	2	.000	10.835	2	.004
26	31	1.937	2	.380	1.259	2	.533
26	32	19.862	2	.000	2.378	2	.305
26	33	1.305	2	.521	3.314	2	.191
26	34	5.799	2	.055	1.433	2	.488
26	35	0.544	2	.758	1.194	2	.551
26	36	292.420	2	.000	15.854	2	.000
26	37	16.768	2	.000	2.935	2	.231
26	38	17.044	2	.000	0.077	2	.962
26	39	4.873	2	.088	2.055	2	.358
26	40	88.696	2	.000	0.095	2	.954
26	41	2.588	2	.274	1.363	2	.506
26	42	25.673	2	.000	3.213	2	.201
28	25	82.766	3	.000	10.325	3	.016
29	26	24.842	1	.000	0.204	1	.651
30	27	13.737	8	.089	3.102	8	.928
31	43	9.186	2	.010	8.878	2	.012
31	44	1.378	2	.502	2.157	2	.340
31	45	1.582	2	.453	6.094	2	.048
31	46	6.249	2	.044	6.868	2	.709
31	47	11.955	2	.003	1.548	2	.461
31	48	1.858	2	.395	0.749	2	.688
31	49	1.985	2	.371	2.041	2	.361
31	50	2.773	2	.250	9.958	2	.007
31	51	0.723	2	.697	1.407	2	.495
33	53	4.190	2	.123	0.659	2	.719
34	61	62.062	2	.000	1.435	2	.488
Fig.1	11	3.548	2	.170	2.106	2	.349
Fig.1	12	6.659	2	.036	5.084	2	.079
Fig.1	13	2.140	2	.343	5.440	2	.066
Fig.1	14	1.585	2	.453	3.323	2	.190
Fig.1	15	27.599	2	.000	2.755	2	.252